EXPANDING MODERN CELLO TECHNIQUE: A SURVEY OF THE TECHNICAL INNOVATIONS IN PAUL TORTELIER'S *HOW I PLAY, HOW I TEACH* AND THEIR APPLICATION WITHIN THE REPERTOIRE

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Paul Tortelier's *How I Play, How I Teach* (1975) is an invaluable addition to the limited amount of comprehensive cello methods written during the second half of the 20th century. Although Tortelier's influence on cello performance is still being felt today, the application of his method has not been sufficiently explored. An exceptional performer and devoted pedagogue, Paul Tortelier (1914-1990) can undoubtedly be ranked among the greatest cellists of the 20th century. Influenced by Pablo Casals' (1876-1973) approach to cello playing, *How I Play, How I Teach* develops his views on intonation, sound production, shifting, and articulation. However, Tortelier also introduces numerous daring inventions of his own into his method. These include playing with a flattened last joint of the finger for a more expressive vibrato, "rolling the stick of the bow" while playing for a wider palette of tone colors, new pizzicato and thumb position techniques, new legato fingerings for double stops, and the "pianistic passing of the thumb," among others.

Due to their highly unorthodox nature and often condensed, minimalistic explanations, many of Tortelier's ideas have failed to gain acceptance since their publication and are regularly considered to be types of extended technique, mostly applicable to contemporary music performance. By examining Tortelier's innovations and by employing them in selected excerpts from the cello literature, this research proves that even his most radical ideas are applicable within the standard repertoire. If paired with the other methods, the visionary contents of *How I Play, How I Teach* serve as a useful resource of technical ideas to any aspiring cellist and pedagogue.

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CHAPTER 1

INTRODUCTION

1.1 Subject and Purpose

This dissertation explores the unique content of Paul Tortelier's (1914-1990) cello method *How I Play, How I Teach* (1975) and provides guidance on how to approach and utilize the novelties that it contains. Although Tortelier's influence on cello playing of the 20th century is still being felt today, the application of his ideas has not been sufficiently explored by cellists.

Originally published in English and translated into German, French, and Japanese languages, *How I Play, How I Teach* is one of the few major cello methods written during the second half of the 20th century, in the heyday of the revolutionary Pablo Casals (1876-1973) ideologies about the approach to modern cello playing. However, due to their highly unorthodox nature, many of the ideas in *How I Play, How I Teach* have failed to gain acceptance among Tortelier's more traditionalist contemporaries and have rarely been put into practice since their publication. Some of the contents of his work contradict the established principles of basic cello technique by introducing new aspects of left and right-hand techniques, unconventional fingerings, special pizzicatos, and other radical ways of playing, which could in some instances be classified as types of extended technique. Such novelties might suggest a modern way of playing, resulting in a skeptical approach and restraint from players with an already established technique. Furthermore, the new elements in the Tortelier method are presented in a condensed, straightforward manner. His minimalistic explanations are often paired with brief target specific exercises that can easily be misinterpreted if not carefully elaborated. Although the method serves as a useful guide to develop a sophisticated advanced cello technique, some of its content might not be suitable for beginners. Its application requires previous general knowledge and

understanding of basic cello technique for it to serve as an upgrade to the Casals approach.

The goal of this research is to make Tortelier's concepts clearer and more accessible to performers and pedagogues, so that they benefit from the innovations and ideas he proposed. My dissertation isolates specific places from the cello repertoire where Paul Tortelier's method can be adequately put to use. In order to clarify how Tortelier's concepts differ from any previous approach, I list examples of different solutions for the same problem found in other editions and methods to serve as comparisons. Additionally, I try to provide more specific suggestions on how to execute any insufficiently elaborated ideas by Tortelier. To demonstrate the effectiveness of his concepts, I categorize the selected examples into three different main chapters: Left-Hand Technique Ideas, Right-Hand Technique Ideas, and Unorthodox Innovations.

The Left-Hand Technique Ideas section includes examples where Tortelier's suggested fingering patterns for four-octave scales and double-stop scales can be applied, and it points out *cantilena* passages from the literature where his technique of "playing in the flesh of the finger" can be used to achieve a wider vibrato. Furthermore, it also discusses cases when placing the thumb on only the A string is beneficial for a more perpendicular position of the left hand to the fingerboard, to obtain a longer reaching range of the little finger.

Within the Right-Hand Technique Ideas section, I illustrate how Tortelier's more percussive *spiccato* technique can be utilized within the standard repertoire, and I provide examples of where his "rolling the stick of the bow" method can prove beneficial.

The Unorthodox Innovations section examines his most radical ideas, such as the concept of the "pianistic passing of the thumb," putting the thumb underneath the fingerboard in high positions, and his newly invented personal pizzicato techniques: the "pichenetto" and the "onglizzando."

1.2 Current State of Research

Although written by a well-known 20th century cellist cellist-pedagogue, significant research about *How I Play, How I Teach* has been relatively sparse. Basic descriptions of this publication can only be found in a handful of dissertations, scholarly essays, and interviews. It seems that Tortelier is generally more remembered as a performer and inventor.

The *How I Play, How I Teach* method is somewhat described in Sölen Dikener's DMA dissertation *Three Great Cellists of the Twentieth Century: Paul Tortelier, the Teacher and Composer, Luigi Silva, the Arranger, Gaspar Cassadó, the Performer and Composer*.[1] Dikener, a student of Tortelier himself, provides largely superficial information concerning the contents of the method. After introducing basic biographical details about the famous cellist, Dikener presents the method by describing the general contents and ideas of its three main chapters. He mentions that *How I Play, How I Teach* opened a new stage in cello playing by featuring a vast amount of original information;[2] however, no specific idea is discussed in deeper detail, and the rest of the dissertation's chapter about Tortelier focuses mostly on the artist's compositional output.

Although part of Sölen Dikener's dissertation discusses his teacher's artistic heritage, the exercises in his book *Cello Warm-Up!* (2010) unmistakably show Tortelier's influence. In fact, Dikener himself states in the preface to his collection of exercises that his approach was directly influenced by Tortelier. According to Dikener, Tortelier's way of cello playing guided his approach, and *How I Play, How I Teach* served him as the most comprehensive guidance in preparing his own method.[3] Clear examples of this influence are Dikener's wrist exercises, his

[1] Sölen Dikener, "Three Great Cellists of the Twentieth Century: Paul Tortelier, the Teacher and Composer, Luigi Silva, the Arranger, Gaspar Cassadó, the Performer and Composer," DMA dissertation, Michigan State University, 2000.

[2] Ibid., 8.

[3] Sölen Dikener, *Cello Warm-Up!* (Ankara: Müzik Eğitimi Yayınları, 2010), p. 6.

similar definition of how to practice *spiccato* bowing, and his scales, where he uses the fingerings preferred by Tortelier.

Tortelier's method serves as a partial topic of another doctoral dissertation. In her document *Left-Hand Technique in the Suzuki Cello Method: An Analytical Overview and Comparison with Contemporary Cello Pedagogy*, Shiang-Yin Lee compares the Suzuki approach to left-hand technique to various other important contemporary methods of the 20th century.[4] One of these is the *How I Play, How I Teach* method. Lee draws the conclusion that the Suzuki method is not sufficient by itself; instead, it should be paired together with other major methods such as Tortelier's to provide the strong basis required for developing a student's left-hand technique.

In her book *The Great Cellists*, Margaret Campbell (1917-2015) mentions Paul Tortelier among the other notable cellists of history. According to Campbell, it was Tortelier's very first cello teacher and advocate of the Franco-Belgian school, Béatrice Bluhm, who introduced the young Tortelier the idea of flexible wrist and free bow arm.[5] Furthermore, Richard Markson, a former Tortelier student, recalls Tortelier's idea on the importance of the perpendicular left hand.[6]

In his interview with Tim Janof, Gerhard Mantel (1930-2012) mentions that Tortelier favored straightening the last joints of the fingers on the left hand while playing ("playing in the flesh of the finger") to achieve a wider vibrato and a quick relaxation of the finger.[7] However, Mantel also states that Tortelier was aware of the different physiques of his students, so this way

[4] Shiang-Yin Lee, "Left-Hand Technique in the Suzuki Cello Method: An Analytical Overview and Comparison with Contemporary Cello Pedagogy," DMA dissertation, University of Washington, 2001.

[5] Margaret Campbell, *The Great Cellists* (North Pomfret, VT: Trafalgar Square Publishing, 1989), p. 216.

[6] Ibid., 218.

[7] Tim Janof, "Conversation with Gerhard Mantel," *Internet Cello Society* (2000), accessed April 27, 2021, <http://www.cello.org/newsletter/articles/mantel.htm>.

of playing was only a recommendation.[8]

Arto Noras, one of Tortelier's students, published a cello tutor for young students. Although it is intended for complete beginners, Tortelier's influence in it can be observed through Noras' emphasis on the relaxation of both thumbs.[9]

In *The Cambridge Companion to the Cello*, R. Caroline Bosanquet (1940-2013) lists Tortelier's general ideology and some of the important elements of the *How I Play, How I Teach* method. According to Bosanquet, these include left-hand finger percussion, square left-hand position, new fingerings for double-stop scales, and Tortelier's modern-sounding interval exercises.[10]

1.3 Paul Tortelier

Paul Tortelier was one of the most influential and well-known French cellists of the 20th century. Born in Paris to a low-income household, the young Paul started playing cello at the age of six under the guidance of his parents, who, although not professional musicians, considered music an important part of society. His first teacher was Béatrice Bluhm, a strong proponent of the Franco-Belgian traditions of playing who put a lot of emphasis on the use of the bow arm.[11] According to Tortelier, Bluhm's teaching philosophy relied on avoiding extensive stretching of the left hand and promoted the use of vibrato during the early stages of cello playing.[12] As a young child, Tortelier contributed to the family income by providing live music to silent motion pictures

[8] Tim Janof, "Conversation with Gerhard Mantel," *Internet Cello Society* (2000), accessed April 27, 2021, <http://www.cello.org/newsletter/articles/mantel.htm>.

[9] Arto Noras, *Sellokoulu I* (Helsinki: Fazer, 1974), pp. 20, 25.

[10] R. Caroline Bosanquet, "The Development of Cello Teaching in the Twentieth Century," in *The Cambridge Companion to the Cello*, ed. Robin Stowell (New York: Cambridge University Press, 1999), pp. 207-209.

[11] Margaret Campbell, *The Great Cellists* (North Pomfret, VT: Trafalgar Square Publishing, 1989), p. 216.

[12] David Blum, *Paul Tortelier: A Self-Portrait* (London: Heinemann, 1984), p. 30.

in the Parisian cinemas. At age nine, Tortelier continued his studies with the famous French cello pedagogue Louis Feuillard (1872-1941) privately, later officially entering his class at the *Conservatoire de Paris* at age twelve. After concluding his studies with Feuillard, Tortelier joined the studio of Gérard Hekking (1879-1942) at fourteen and graduated from the *Conservatoire de Paris* two years later with a first prize in cello performance. During the following ten years after his graduation, Tortelier mostly worked as an orchestral musician. While being a member of the *Orchestre de Radio-Paris* and the *Orchestre de la Société des Concerts du Conservatoire*, he also completed his advanced harmony studies in parallel with Jean Gallon (1878-1959) at the Paris Conservatory. In 1935, Tortelier became the principal cellist of the Monte Carlo Philharmonic Orchestra, and a few years later, the section cellist of the Boston Symphony Orchestra. Being a member of such prominent ensembles provided him with opportunities to collaborate and interact with remarkable artists such as Arturo Toscanini (1867-1957), Bruno Walter (1876-1962), Richard Strauss (1864-1949), Serge Koussevitzky (1874-1951), and Igor Stravinsky (1882-1971), among others.

During the war in 1940, Tortelier left the United States and moved back to France. The years between 1940-44 were difficult for the cellist. He earned his living as a member of the radio orchestra. During this time, he divorced his first wife, with whom he already had his first child. Finally, after the liberation, Tortelier's career took a positive turn when he rejoined the *Orchestre de la Société des Concerts du Conservatoire* under the baton of Charles Munch (1891-1968).

However, Tortelier's real international fame started in 1947 when he was invited to perform the solo cello part in Richard Strauss' symphonic poem *Don Quixote* in London with the Royal Philharmonic Orchestra conducted by Sir Thomas Beecham (1879-1961). For the rest of his life, Tortelier would remain a celebrity cellist in the United Kingdom, often performing and giving

masterclasses in the country. Also, during these years he met his second wife and lifelong partner, Maud (née Martin) Tortelier (1926-2015). Maud was also an accomplished cellist who played a significant role in the artist's life, both as the mother of their three musician children, a supportive coach to his students, and as the frequent dedicatee of her husband's pieces. An encounter and collaboration with the great Pablo Casals in 1950 at the Casals Festival in Prades served as a milestone in Tortelier's career. Working together with Casals provided the French cellist with artistic inspiration and lifelong influence.

Besides being an active soloist performer, Tortelier was also a prominent pedagogue, an enthusiastic composer, a devoted humanist, an avid thinker, and a creative inventor. Living an energetic, ever-active lifestyle with a daily average of five hours of sleep, frequent traveling, and regular physical activity, his extravagant and charismatic personality can be felt through his way of cello playing. A fierce opponent of social injustice, he promoted equality and pacifist ideologies through his musical activities. Some of his compositions include marches and hymns dedicated to world peace.[13] In order to experience and practice his ideals about equality, the non-Jewish Tortelier and his family spent a year on the kibbutz of Ma'abaroth in Israel as members of a community where no social differences are recognized.

As a professor at the *Conservatoire de Paris* (1956-69) and later at the *Folkwang-Hochschule* in Essen (1969-75), he served as an instructor to many cellists of future international reputation.[14] Alongside his pedagogical contribution to modern cello technique, he created the "Tortelier endpin," a bent endpin that puts the cello into a more horizontal position while playing,

[13] These include: *The Great Flag* (1959), *The Blue Berets* (1970), *Towards Peace* (1982), and *May Music Save Peace* (1982).

[14] To name a few: Daniel Domb, Jacqueline du Pré, Renaud Fontanarosa, Walter Goedde, Rainer Hochmuth, Akiko Kanamaru, Aage Kvalbein, Aleth Lamasse, Frieder Lenz, Gerhard Mantel, Philippe Muller, Arto Noras, Michel Strauss, Raphaël Sommer, etc.

like that of the violin. This endpin has been in use by cellists ever since its invention.[15] He also developed a cello bridge that allowed the two inner strings of the cello to vibrate more freely.[16]

1.4 Paul Tortelier's Teaching Philosophy and Approach

A great admirer of Pablo Casals and a fierce advocate of his revolutionary principles, Tortelier believed that an effective cello technique not only manifests through imaginative interpretation and perfection in execution, but also through acquiring an optimal solution to a specific problem with the investment of the least amount of effort.[17] His condensed, straightforward descriptions and exercises in *How I Play, How I Teach* also demonstrate this kind of approach.

Tortelier's teaching philosophy was greatly shaped by his teacher, Louis Feuillard. Feuillard's contribution to cello pedagogy is remarkable. His exercises and methods such as the *Daily Exercises*[18] and the *Technic of the Cello*[19] are still in use all over the world, and his transcriptions of Otakar Ševčík's (1852-1934) *School of Bowing Technique*, Op. 2[20] and *40 Variations*, Op. 3[21] have become an invaluable addition to the repertoire being used to develop a sophisticated right-hand technique among today's cellists. Feuillard's approach is famous for being very straightforward and highly goal specific to achieve maximum result with minimum means.[22]

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[15] To name a few: Young-Chang Cho, David Finckel, Arto Noras, Mstislav Rostropovich, Jian Wang, etc.

[16] David Blum, *Paul Tortelier: A Self-Portrait* (London: Heinemann, 1984), pp. 136-137.

[17] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 10.

[18] Louis Feuillard, *Daily Exercises* (Mainz: Schott, 1919).

[19] Louis Feuillard, *Technic of the Cello* (Nice: Delrieu, 1938).

[20] Otakar Ševčík, *School of Bowing Technique for Cello*, arr. Louis Feuillard (London: Bosworth & Co., 1905).

[21] Otakar Ševčík, *40 Variations*, arr. Louis Feuillard (London: Bosworth & Co., 1905).

[22] R. Caroline Bosanquet, "The Development of Cello Teaching in the Twentieth Century," in *The Cambridge Companion to the Cello*, ed. Robin Stowell (New York: Cambridge University Press, 1999), p. 202.

Tortelier was an advocate of similar approach. The contents of his *How I Play, How I Teach* method book are compressed and straight to the point. His instructions are specific and short, and they often omit the usual preparatory exercises of gradually increasing difficulty commonly present in various other methods books of the 20th century. While his exercises succeed in addressing the root of a specific technical problem, they demand complete devotion and attention. Besides the already unusual symbols he uses to label technical ideas, Tortelier does not hesitate to repeatedly place his exercises into higher registers, using the tenor and treble clefs. Rhythmically, his etudes frequently employ a wide variety of meters such as 5/4, 5/16, 7/4, 12/8, etc. His short etudes (which he calls "Miniatures") are all extremely useful compositions toward achieving their objectives. In the spirit of his predecessors, Tortelier supplies these etudes with a second cello accompaniment to be played by the teacher.[23] However, these exercises are all technically difficult, often containing dissonant intervallic leaps throughout the whole compass of the cello, extensive chromaticism, frequent use of the thumb as an independent finger, and a complex rhythmical structure. Even their author calls them "true concert pieces" which should be studied carefully.[24] In order to properly approach most of the material in the *How I Play, How I Teach* method book, a decent previous knowledge of solfège is required. Furthermore, the lack of a systematic and gradual progression among the exercises and etudes calls for an already-established basic cello technique, familiarity with the basic left-hand positions, and right-hand bow division.

Like his idol Pablo Casals, Tortelier was fascinated by the works of Johann Sebastian Bach and considered them superior to other music. In his memoirs, he considers Bach the greatest

[23] Throughout history, etudes with additional cello accompaniment were composed by Bréval, Davidov, Duport, Kummer, Lee, Romberg, Popper, etc.

[24] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 10.

composer that has ever lived.[25] His fascination with Bach resulted in the extensive lifelong study of Bach's *Six Suites for Solo Cello*, which he edited and published twice during his lifetime. In fact, he employs some of his unique technical ideas from his cello method in his own editions of the Bach Suites.[26]

Tortelier believed in total dedication towards musical goals. Even at an older age, he was always open to new ideas. Such openness was also expected from his students. In his interview with Tim Janof of the Internet Cello Society, Tortelier's ex-student Arto Noras describes him as a dominating teacher who insisted his pupils to play a piece his way at least once.[27] Once they mastered Tortelier's way of playing it, his students were free to interpret as they want. Additionally, Paul Tortelier believed in musical storytelling, linking each piece to a specific imagery. Tortelier describes these subjective images as products of intuition, intimately connected to the work he plays, something that helps for the performer to interpret the work more convincingly.[28] According to his students, the seemingly eccentric *raconteur* Tortelier was in fact a true down-to-earth artist, a serious musician, and a devoted teacher.[29]

1.5 Significance of the *How I Play, How I Teach* Method

The evolution of today's modern cello technique developed rapidly during the second half of the 20th century. Most early 20th century cello methods are considered outdated by today's pedagogical standards. These methods often omitted logical explanations and insisted on a

[25] David Blum, *Paul Tortelier: A Self-Portrait* (London: Heinemann, 1984), p. 158.

[26] Paul Tortelier, *Bach: Six Suites for Solo Cello* (London: Stainer & Bell, 1983), pp. 47, 65.

[27] Tim Janof, "Conversation with Arto Noras," *Internet Cello Society* (1998), accessed April 27, 2021, <www.cello.org/newsletter/articles/noras.htm >.

[28] David Blum, *Paul Tortelier: A Self-Portrait* (London: Heinemann, 1984), p. 146.

[29] Margaret Campbell, *The Great Cellists* (North Pomfret, VT: Trafalgar Square Publishing, 1989), p. 219.

conservative technical approach.[30] Moreover, they lacked some of the crucial new elements required for developing a state-of-the art cello technique such as exercises for expressive intonation, advanced right-hand etudes, left-hand percussion and articulation drills, various shift studies, vibrato and spiccato technique description, etc.

Under Pablo Casals' influence and his particular attention toward expressive intonation, sound production, shifting, and percussive left-hand articulation, cello technique underwent a major revolution that paved the way for contemporary cello playing as we know it today.[31] Although Casals never published a complete method book of his own, his students Diran Alexanian (1881-1954) and Maurice Eisenberg (1900-1972) summarized his groundbreaking approach in their published major works. Alexanian's *Complete Cello Technique* (1922) is based on Casals' own ideas; however, its content is rather complicated, often overemphasizing extensive left-hand stretching which can be strenuous for cellists with smaller hands.[32] Eisenberg's *Cello Playing of Today* (1957) is more flexible in this regard, providing clear and detailed explanations of how to properly execute larger leaps in the left hand.[33] In order to make a bigger leap, Eisenberg describes the procedure of shifting and recommends "rolling the hand," a combination of stretching paired with an additional small leap when larger extensions are unavoidable.[34] Another notable publication based on the Casals tradition is Christopher Bunting's (1924-2005) *Essay on the Craft of Cello Playing* (1982). In his method, Bunting takes up a comprehensive approach to

[30] R. Caroline Bosanquet, "The Development of Cello Teaching in the Twentieth Century," in *The Cambridge Companion to the Cello*, ed. Robin Stowell (New York: Cambridge University Press, 1999), p. 195.

[31] Elizabeth Cowling, *The Cello* (New York: Charles Scribner's Sons, 1975), p. 166.

[32] R. Caroline Bosanquet, "The Development of Cello Teaching in the Twentieth Century," in *The Cambridge Companion to the Cello*, ed. Robin Stowell (New York: Cambridge University Press, 1999), p. 201.

[33] See Maurice Eisenberg, *Cello Playing of Today* (London: Lavender, 1957), pp. 11-21.

[34] Ibid., p. 18.

the Casals' views, devoting the entire second volume of his work to the problematics of the left hand. In Volume 2 of his essay, Bunting discusses all the major standard elements of left-hand technique: articulation, shifting, vibrato, positions, double-stops, expressive intonation, and finger replacing exercises. However, what makes Bunting's contribution to the cello technique of the twentieth century important is his attention towards the right hand. Volume 1 of his method is fully devoted to addressing the right-hand cello technique. Unlike Alexanian and Eisenberg, Bunting focuses more attention on bow technique. His detailed explanations include multiple exercises, detailed illustrations, and descriptions of the angles and physical movements required for a skilled bow-arm.

Paul Tortelier's approach to modern cello playing was also influenced by the Casals legacy.[35] His teaching method *How I Play, How I Teach* is heavily based on Casals' established principles, however, he introduces several highly innovative new ideas not mentioned in other methods. These include playing with a flattened last joint of the fingers for a more expressive vibrato, keeping the thumb on one string only, rolling the bow while playing for a wider palette of tone colors, new pizzicato and thumb position techniques, the liberation, and frequent use of the left thumb in the neck positions, new legato fingerings for double-stops, the "pianistic passing of the thumb," and placing the thumb under the fingerboard in high positions. Tortelier divided his method into three major sections. The first two sections focus on left and right-hand techniques, and the third section contains various exercises and short etudes.

Due to some of the unorthodox ideas found in the book, the *How I Play, How I Teach* method is often regarded as an aid for contemporary music performance. Even Lev Ginsburg (1907-1981) writes the following in his foreword to the Tortelier method book:

[35] David Blum, *Paul Tortelier: A Self-Portrait* (London: Heinemann, 1984), pp. 100-101.

> This work is especially helpful in preparing cellists for the playing of contemporary music. As is well recognized, modern music requires new techniques which, differing in many ways from those traditionally used, are difficult to master. Most of the cello studies used today are still based on the repertoire of the 18th and 19th century, and thus do not provide instruction in the playing of modern works."[36]

While Ginsburg's remarks about the practicality of the Tortelier method towards contemporary music are certainly justified, his foreword does no justice to the contents of the book and its author's true intentions. Most of Tortelier's ideas are applicable to the general cello repertoire. In fact, many of the examples that Paul Tortelier himself provides in his method are from the standard, non-contemporary literature.[37] The radical innovations in his book might seem frightening to a cellist with a reserved attitude towards these original, sometimes controversial ideas. However, upon closer observation one can recognize that the purpose of this work is not to provide instructions on how to play contemporary music; its purpose is to teach how to play any kind of music with an advanced contemporary cello technique. Besides being a useful resource for playing new music, as noted above by Ginsburg, the examples in this research prove that *How I Play, How I Teach* is also a valuable contribution to the traditional repertoire and standard cello technique.

1.6 Deficiencies of the *How I Play, How I Teach* Method

One of the reasons for exercising restraint towards *How I Play, How I Teach* may lie in its ideas' restriction to a certain physique. What works for the teacher might not always work for the student. As Tortelier states in his autobiography, he had large hands.[38] As an example, his pervasive use of the thumb in the lower neck positions of the instrument may pose difficulties and fatigue to a player with a smaller hand.

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[36] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 8.

[37] Ibid., 118-119.

[38] David Blum, *Paul Tortelier: A Self-Portrait* (London: Heinemann, 1984), p. 212.

Furthermore, soon after its first few pages on basic posture, the Tortelier method becomes dense and complicated. The exercises it contains are not lengthy, but they promote a handful of radically new ideas that are directed towards more advanced players. The swift appearance of these unique ideas can be shocking to a cellist who is used to a more traditional standard technique. Moreover, although his method generally mentions most aspects of cello playing, Tortelier omits explanation of some important elements of basic cello technique. These omissions include the description of the movements of the left hand during extensions (i.e., stretching), playing double-stop scales in sixths, tenths, trill exercises, and the technique of up and down-bow staccatos. Additionally, Tortelier only supplies the reader with some general remarks about vibrato, an important technique that should be discussed in greater detail. Both Alexanian and Eisenberg provide a significantly more detailed description about the technique of vibrato in their publications.[39]

[39] Diran Alexanian, *Complete Cello Technique* (Mineola, NY: Dover, 2003), pp. 96-97. Maurice Eisenberg, *Cello Playing of Today* (London: Lavender, 1957), pp. 108-115.

CHAPTER 2

LEFT-HAND TECHNIQUE IN *HOW I PLAY, HOW I TEACH*

What makes the left-hand section of Paul Tortelier's method unique is the use of unordinary four-octave scale and double-stop scale fingerings, his heavy emphasis on a constantly perpendicular left hand to the fingerboard, playing with the flattened and relaxed joints of the finger, and his ideas about the placement of the thumb across the strings in the higher registers. Other important elements in the left-hand section of *How I Play, How I Teach* that have not been sufficiently addressed before include sections about finding the ideal but flexible positions of the left thumb underneath the neck of the instrument, expressive intonation exercises, and drills for various extensions and shifts depending on one's hand size.

2.1 Four-Octave Scale Fingerings in *How I Play, How I Teach*

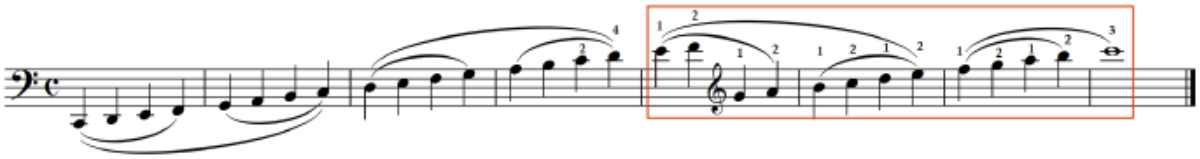
With the gradual standardization of its size and the extension of its fingerboard, the cello has acquired the widest range among the string instruments of the modern symphonic orchestra. Since most four-octave scales can be covered on the cello, playing them has become an important element in a cellist's daily practice routine. In his method, Tortelier stresses the importance of not delaying the teaching of thumb position by advocating its early use in both the lower and the higher registers of the cello.[40] Tortelier compares the fingerboard of the cello to the keyboard of the piano. He states that the use of the thumb as an independent finger of equal value should become natural through the whole length of the fingerboard. According to him, to facilitate a fluent four-octave scale technique, a convenient and consistent fingering is to be acquired.[41] Since the beginning of the 20th century, method books have been providing various types of fingerings for four-octave

[40] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 99.

[41] Ibid., p. 99.

scales. This inconsistency can create confusion for a student, turning the four-octave scale passages into an even more intimidating undertaking. The earliest records of four-octave scale fingerings originate from the turn of the 20th century. These were the ones also suggested by two of the alumni of the famous German Dresden Cello School, Hugo Becker (1863-1941) and Julius Klengel (1859-1933) (Example 1).

Example 1: Hugo Becker's C Major four-octave scale fingering from his *Finger & Bow Exercises*.[42]



Becker's fingering uses the continuous pattern of fingers 1-2, 1-2, 1-2, etc. throughout the third and fourth octaves of the scale. Although this consistent repetitive fingering template might seem advantageous for the muscle memory of the left hand, the frequent whole note slides between the first and second finger require an unusually large number of position changes within the last two octaves. In a faster tempo this fingering pattern might lead to confusion and inaccurate intonation due to the number of shifts in the left hand and the irregularity of the whole and half note steps between them. Furthermore, Becker does not specify standardized fingerings for the first two octaves of the scale. He uses open strings whenever possible, thus, his scales with open strings require a different fingering pattern than the ones that do not contain them. Julius Klengel's *Technical Studies* method suggest an identical fingering.[43] Becker and Klengel seem to be fully

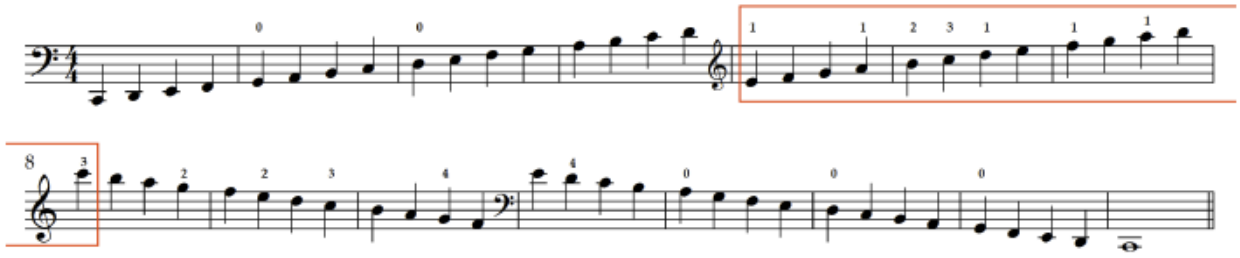
[42] Transcription based on Hugo Becker, *Finger & Bow Exercises* (London: Schott, 1900), p. 10.

[43] Julius Klengel, *Technical Studies*, 4 vols. (Leipzig: Breitkopf und Härtel, ca.1902-6), vol. 1, p. 26.

consistent with the Dresden tradition four-octave scale fingerings of the Dotzauer/Klingenberg *Violoncello Tutor* (1906).[44]

A somewhat modified version of the fingering mentioned above is still considered as standard today and is used by many. An example of this can be found in Mark Yampolsky's (1879-1951) method book *Violoncello Technique*. Here, the exclusive repetitive 1-2 pattern within the third and fourth octaves in the higher register of the cello is broken by using the third finger on the tonic at the end of the third octave. Unlike Becker's and Klengel's fingering suggestions, Yampolsky's solution avoids the continuous position changes after every two notes within the third octave by assigning the third finger to the tonic, thus slightly reducing the hand shifts, and producing a calmer left-hand action. The fingering for the last octave remains identical to Becker's. Although this fingering is advantageous for a more accurate intonation by covering a wider range of notes within the same position, its inconsistent fingering pattern might still prove complicated and disadvantageous for the muscle memory of the left hand. Additionally, Yampolsky also fails to suggest a standardized fingering for the lower octaves of all the scales. Within the first and second octaves, his use of open strings makes the application of a universal fingering impossible (Example 2).

Example 2: C Major four-octave scale from Mark Yampolsky's *Violoncello Technique.*[45]

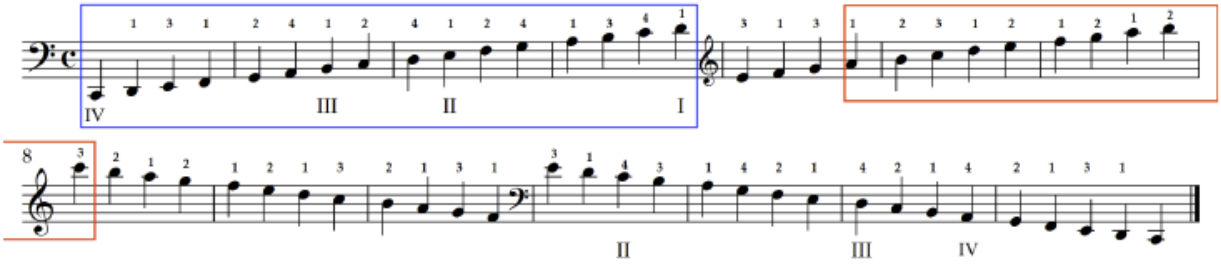


[44] Friedrich Dotzauer, *Violoncello Tutor*, ed. Johannes Klingenberg, (Braunschweig: Henry Litolff's Verlag, 1906), vol. 3, p. 36.

[45] Transcription based on Mark Yampolsky, *Violoncello Technique*, ed. Gordon Epperson, (New York: Universal Music, 1971), p. 5.

Most 20th century methods avoid specifying the fingerings for the first two octaves of the four-octave scale and use open strings whenever possible. However, to apply a consistent rule to the fingerings of the lower two octaves and to evade the use of open strings, Jean Louis Duport's (1749-1819) pattern is often forged together with the methods mentioned above. In his treatise *Essay on Fingering the Violoncello*, Duport recommends playing a group of three fingers between each position change to avoid the use of open strings.[46] Although Duport's method does not include four-octave scales, his fingering suggestions for the first two octaves of any scale can be easily amalgamated with the patterns used above. By combining the two fingering suggestions, the four-octave C major scale can be provided with a consistent pattern of fingerings (Example 3). The resulting type of fingering is mentioned in Hans Jørgen Jensen's *The Ivan Galamian Scale System for Violoncello* as a potential scale fingering for four-octave scales.[47]

Example 3: C Major four-octave scale combining Duport's consistent "no open string" fingering pattern with the higher register fingerings of the previous scales, as listed in Volume 1 of Hans Jørgen Jensen's *The Ivan Galamian Scale System for Violoncello*.[48]



In *How I Play, How I Teach*, Paul Tortelier promotes a different standardized fingering pattern for his four-octave scales (Example 4). Although this fingering is listed in Feuillard's

[46] Jean Louis Duport, *Essay on Fingering the Violoncello, and on the Conduct of the Bow*, trans. John Bishop (London: Augener, 1878), pp. 35-40.

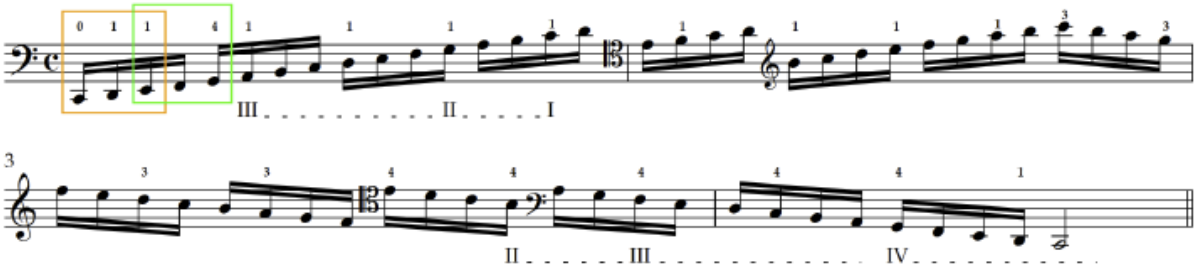
[47] Hans Jørgen Jensen, *The Ivan Galamian Scale System for Violoncello*, 2 vols. (Boston, MA: Galaxy Music Corporation, 1994), vol. 1, p. 48.

[48] Transcription based on Hans Jørgen Jensen, *The Ivan Galamian Scale System for Violoncello*, 2 vols. (Boston, MA: Galaxy Music Corporation, 1994), vol.1, p. 48.

famous *Daily Exercises*,[49] it is less commonly used by today's cellists. Tortelier recommends this fingering and attributes it to his teacher Feuillard, while summarizing its three main rules:[50]

1. Always use the first finger on the third note of the scale
2. Change positions after playing three fingers in a group
3. No open strings

Example 4: C Major four-octave scale by Feuillard/Tortelier.[51]



Although it is occasionally used today by cellists and pedagogues, this type of scale fingering is still not commonly published in other method books. The only method that partially recommends ternary grouped fingers for the upper positions is by Bernhard Cossmann (1822-1910). In his *Cello-Studies*, Cossmann suggests a 1-2-3 pattern for the last octave and half.[52] However, he does not specify any fingering suggestions for the first two octaves of the scale.

In the first volume of his transcription of Ivan Galamian's (1903-1981) scale system, Hans Jørgen Jensen mentions the Feuillard/Tortelier four-octave scale fingerings as an alternative system and describes the rules of their repetitive ternary finger pattern.[53]

While it has not gained as much popularity as the previously mentioned fingerings,

[49] Louis Feuillard, *Daily Exercises* (Mainz: Schott, 1919), p. 24.

[50] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 99.

[51] Transcription based on Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 99.

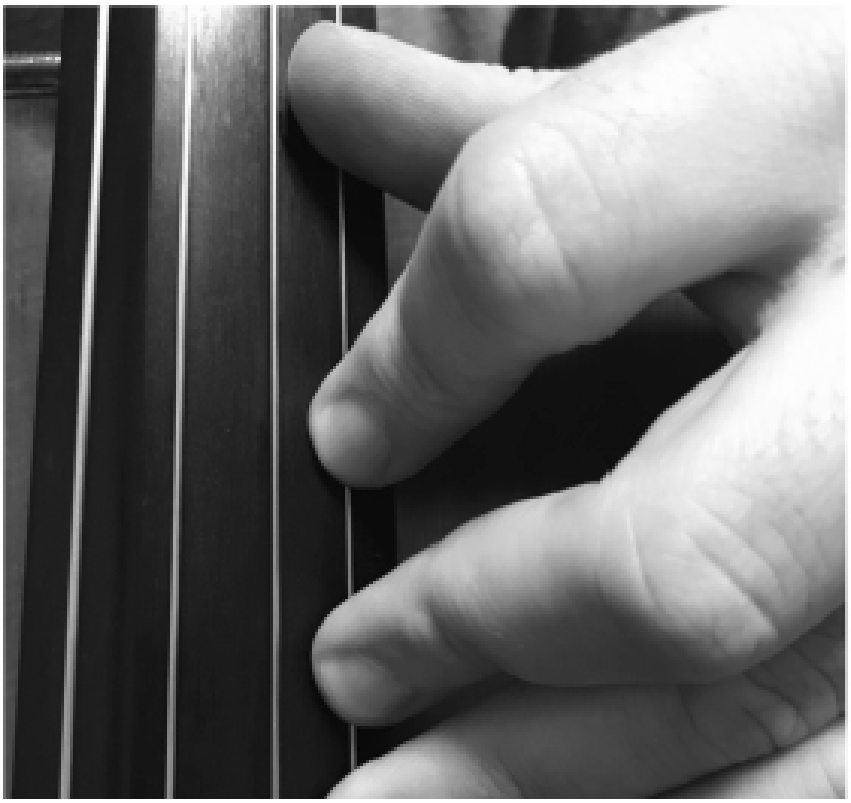
[52] Bernhard Cossmann, *Cello-Studies*, ed. Martin Müller-Rünte (Mainz: Schott, 1912), p. 18.

[53] Hans Jørgen Jensen, *The Ivan Galamian Scale System for Violoncello*, 2 vols. (Boston, MA: Galaxy Music Corporation, 1994), vol. 1, p. 48.

Tortelier's fingering has its benefits and can be applied within the repertoire. The consistent pattern which groups three fingers into each position is particularly convenient for the muscle memory of the left hand. It creates a similar "rhythmical" repetition of the position changes throughout the compass of the cello while managing to reduce the number of shifts that occur within the other four-octave scale fingering patterns.

Another important instruction often left out from method books is the usual location of the thumb behind the first finger in thumb positions. Tortelier remarks that its general location should be one whole note behind the first finger.[54] This way, the left-hand structure is always readily positioned into an octave frame, like a pianist's hand (Figure 1).

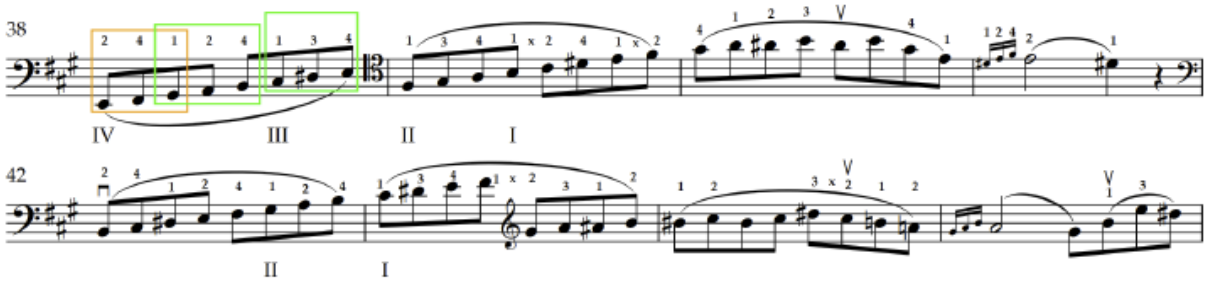
Figure 1: The stationary octave position frame of the left hand with the thumb placed one whole note behind the first finger.



[54] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 63.

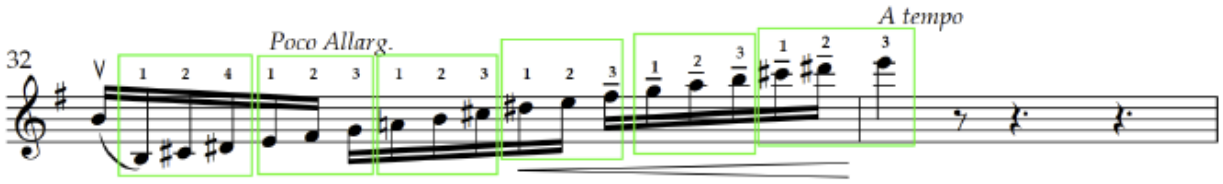
The following scale excerpt from the first movement of Beethoven's Sonata for Cello and Piano No. 3 in A Major serves as an example where Tortelier's scale fingering pattern can be applied (Example 5).

Example 5: Ludwig van Beethoven's Sonata for Cello and Piano No. 3 in A Major, Op. 69, first movement, mm. 38-45.[55]



The ternary scale fingering can also be used for the ascending scale passage in the first movement of Elgar's Cello Concerto (Example 6).

Example 6: Edward Elgar's Cello Concerto in E Minor, Op. 85, first movement, mm. 32-33.[56]

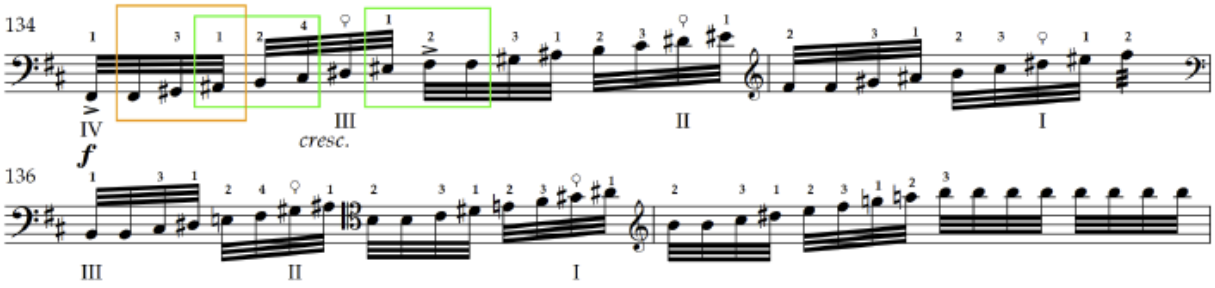


Additionally, if paired with the use of the thumb as an independent finger, the basic principles of such a repetitive ternary fingering pattern can be applied in various virtuoso scale passages, such as the four-octave scale runs in Tchaikovsky's *Pezzo Capriccioso* and in his *Variations on a Rococo Theme* (Examples 7 and 8).

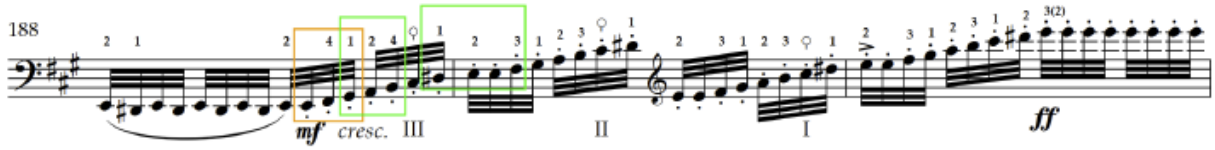
[55] Transcription based on Ludwig van Beethoven, *Sonatas for Piano and Violoncello*, ed. Jens Dufner (München: Henle, 2009). Fingerings and bowings edited by the author.

[56] Transcription based on Edward Elgar, *Cello Concerto* (London: Novello & Co., 1919). Fingerings and bowings edited by the author.

Example 7: Pyotr Ilyich Tchaikovsky's *Pezzo Capriccioso,* Op. 62 for cello and orchestra, mm. 134-137.[57]



Example 8: Pyotr Ilyich Tchaikovsky's *Variations on a Rococo Theme,* Op. 33 for cello and orchestra, mm. 188-190.[58]



The identical repetitive fingering facilitates a smooth execution in both previous examples, preventing any difficulties that would occur using a more inconsistent fingering.

2.2 Constant Perpendicular Left Hand with the Occasional Use of the Little Finger

Besides Casals' ideas on a highly percussive left-hand articulation and expressive intonation, Tortelier puts a strong emphasis on the constant perpendicular position of the left hand to the fingerboard throughout all the positions on the cello. Although a perpendicular hand position has been in general acceptance ever since Jean Louis Duport's standardization of the cello fingering pattern,[59] it was never emphasized in a such a strict way. Maurice Eisenberg, a faithful follower of Casals' ideas, recommends both the fully perpendicular and the slanted hand positions,

[57] Transcription based on Pyotr Ilyich Tchaikovsky, *Pezzo Capriccioso* (Moscow: Muzyka, 1970). Fingerings and bowings edited by the author.

[58] Transcription based on Pyotr Ilyich Tchaikovsky, *Variations on a Rococo Theme* (Moscow: Muzgiz, 1962). Fingerings and bowings edited by the author.

[59] Jean Louis Duport and John Bishop, *Essay on Fingering the Violoncello, and on the Conduct of the Bow* (London: Augener, 1878), pp. 2-11.

depending on the order of the semitones between the fingers. However, he states that a "side placing" of the hand is usually most natural and comfortable in the thumb positions.[60]

In his *Self-Portrait*, Tortelier claims that cellists are still using a slightly slanted left-hand position.[61] Even some famous 20th century pedagogues like William Pleeth (1916-1999) still advocated for a slanted left-hand posture in their methods.[62] The idea of the fully perpendicular left hand was one of the main ideas in Tortelier's approach to the general left-hand technique. According to Tortelier, a constantly perpendicular left-hand position to the fingerboard, like the position of the hands of a pianist to the keyboard, facilitates a longer reaching range of the little finger even across the strings, especially in the higher registers.[63] As the fingers fall vertically on the strings in this position, more weight is distributed evenly across the hand (Figure 2). In his method, he provides various exercises such as the one below to maintain the perpendicular hand positions throughout the whole compass of the instrument (Example 9).

Figure 2: The difference between the perpendicular (square) left-hand position and the slanted left-hand position on the fingerboard.

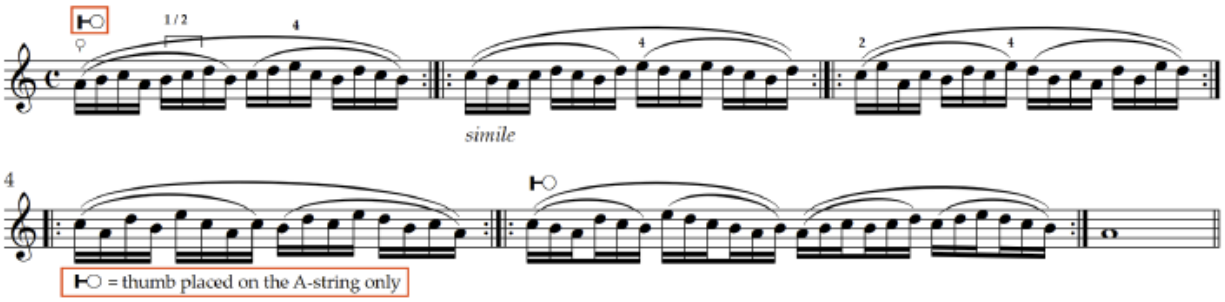
[60] Maurice Eisenberg, *Cello Playing of Today* (London: Lavender, 1957), p. 51.

[61] David Blum, *Paul Tortelier: A Self-Portrait* (London: Heinemann, 1984), p. 210.

[62] William Pleeth, *Cello* (London: Kahn & Averill, 1992), p. 161.

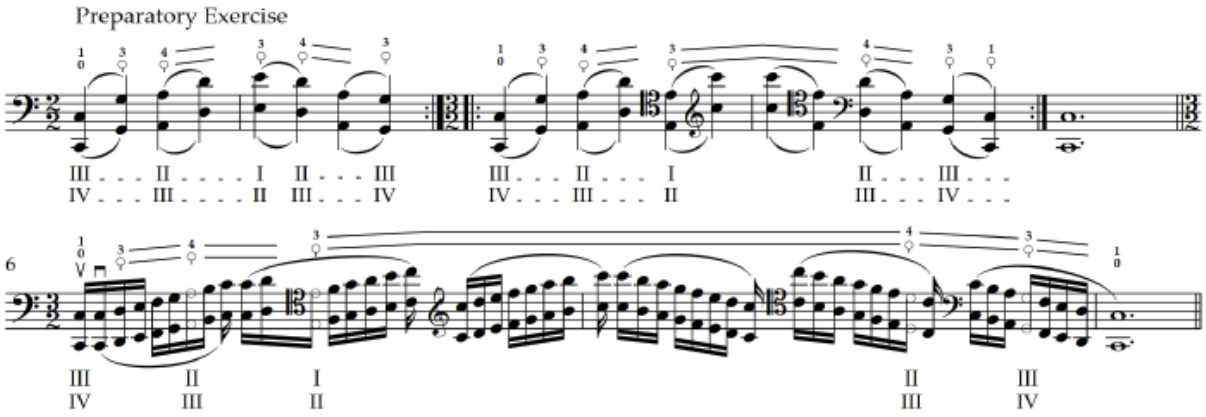
[63] David Blum, *Paul Tortelier: A Self-Portrait* (London: Heinemann, 1984), p. 210.

Example 9: Exercise for the perpendicular position of the left hand to the fingerboard from Paul Tortelier's *How I Play, How I Teach*.[64]



The ideology behind the perpendicular angle of the left hand to the strings in *How I Play, How I Teach* is so consistent that most of Tortelier's innovative fingerings indirectly demand this left-hand posture. For example, his new double-stop fingerings which use the thumb in the neck positions of the instrument to a large extent require a perpendicular hand position to achieve correct intonation (Example 10).

Example 10: C Major double-stop octave scale from Paul Tortelier's *How I Play, How I Teach*.[65]



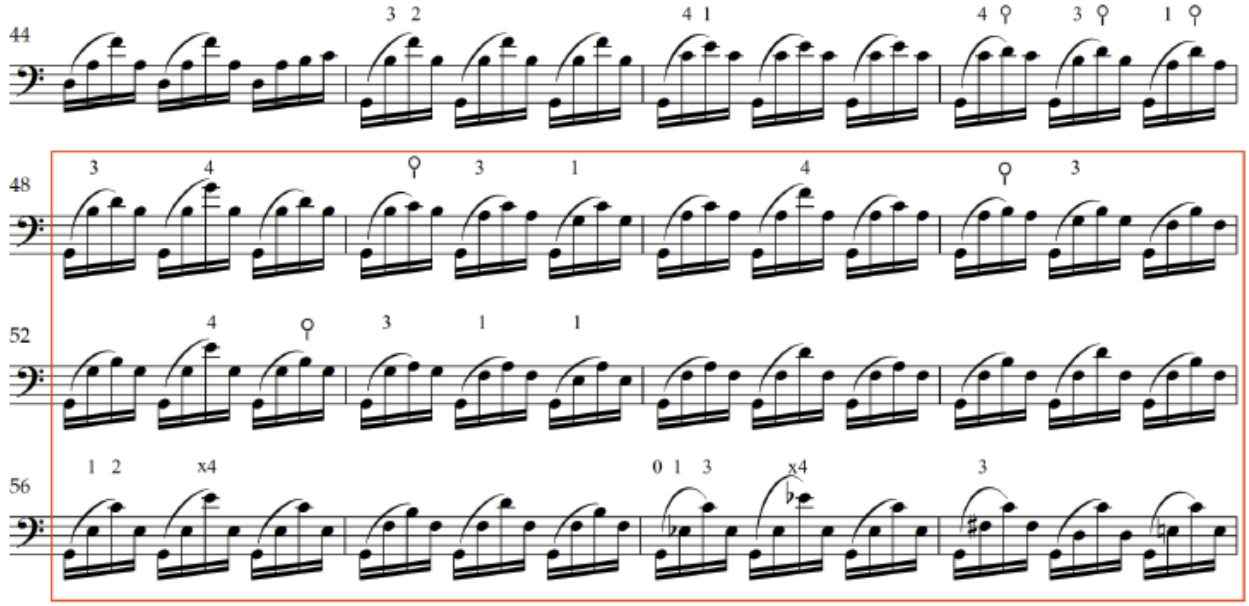
Below are a few examples from the repertoire where a completely perpendicular left-hand position to the fingerboard is necessary to successfully exploit the full reaching range of the little

[64] Transcription based on Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 92.

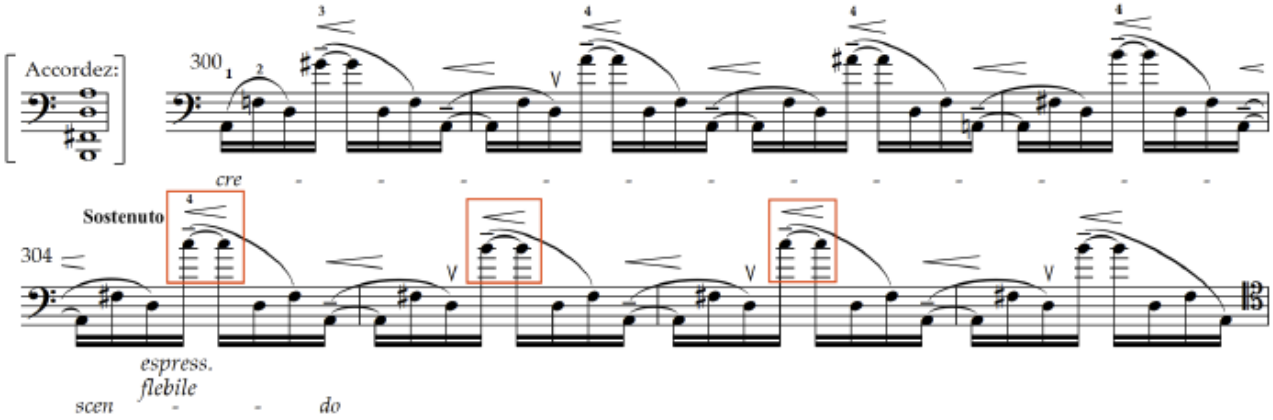
[65] Ibid., p. 103.

finger across the strings in both the lower and higher registers of the cello (Examples 11, 12, 13, and 14).

Example 11: *Prelude* of Johann Sebastian Bach's Cello Suite No. 3, BWV 1009, mm. 44-59.[66]



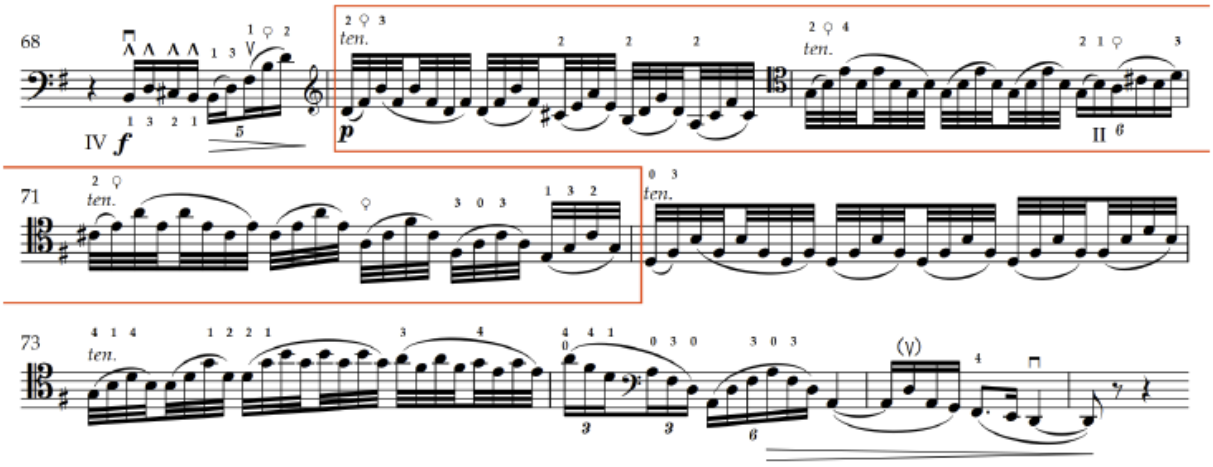
Example 12: Zoltán Kodály's Sonata, Op. 8 for solo cello, third movement, mm. 300-307.[67]



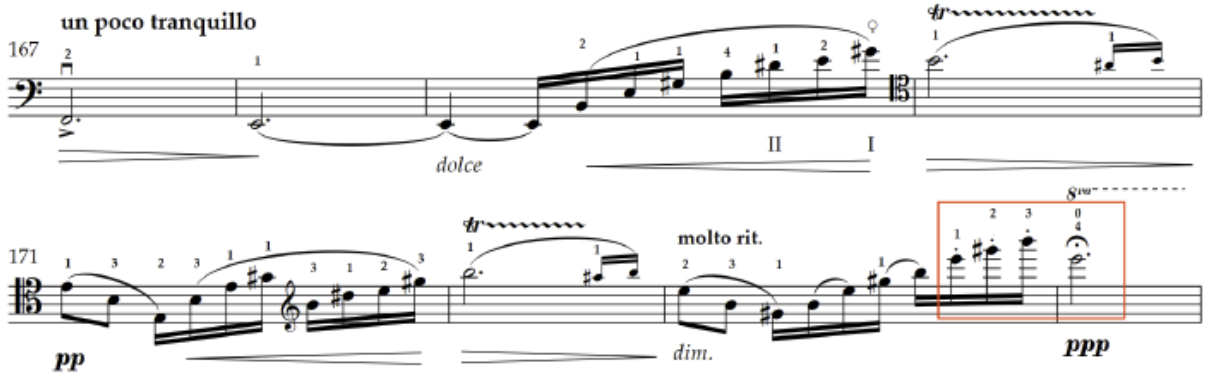
[66] Transcription based on J. S. Bach, *Six Suites for Violoncello Solo*, ed. August Wenzinger (Kassel: Bärenreiter, 1950). Fingerings and bowings edited by the author.

[67] Transcription based on Zoltán Kodály, *Sonate Op. 8* (Vienna: Universal Edition, 1921). Fingerings and bowings edited by the author.

Example 13: Antonín Dvořák's Concerto for Cello and Orchestra in B Minor, Op. 104, second movement, mm. 68-76.[68]



Example 14: Pyotr Ilyich Tchaikovsky's *Variations on a Rococo Theme*, Op. 33, mm. 167-174.[69]



As pointed out by Tortelier, to maintain the perpendicular position of the left hand in thumb positions, a strong thumb and wrist are needed, along with a flexible chest and shoulder.[70] If the thumb is sufficiently strong and correctly placed, it will form a "ring" with the other fingers above it, resting comfortably on the fingerboard. This "ring" is similar to the "ring" formed between the thumb underneath the neck and the fingers above the fingerboard in the lower neck positions. As

[68] Transcription based on Antonín Dvořák, *Cello Concerto* (Berlin: N. Simrock, 1896). Fingerings and bowings edited by the author.

[69] Transcription based on Pyotr Ilyich Tchaikovsky, *Variations on a Rococo Theme* (Moscow: Muzgiz, 1962). Fingerings and bowings edited by the author.

[70] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), pp. 61-62.

an aid to develop a strong but flexible thumb, Tortelier introduces various thumb strengthening short exercises in his method.[71]

2.3 Keeping the Thumb on the A String Only

Among the detailed method books of the 20th century, discussions involving whether it is always necessary to keep the thumb constantly across two strings are sparse and often avoided. Alexanian, a pupil of Casals, introduces thumb position in his treatise under the title *Preparation of the Use of the Nut-Thumb*.[72] Even the title of this chapter about the basics of thumb position suggests the thumb being used as sort of a strut, rather than a fully independent and flexible finger.

Within the chapter, Alexanian states that the thumb is to be placed across two strings.[73] However, Alexanian does not specifically mention whether this rule stays in effect if the D string is not being played at all in a particular passage. This traditional way of playing, while beneficial to the general stability of the left hand, may limit the range of the fingers and block the D string from producing some overtones that would otherwise result from its complimentary ringing with the A string.

Eisenberg, another Casals student, similarly suggests keeping the thumb on both the A and D strings when playing thumb position passages in general. However, he mentions some flexibility in this regard. According to him, in certain fast passages on one string, it is possible to move the thumb over to the A string exclusively.[74] In the section about thumb position in his *Essay on the Craft of Cello Paying*, Christopher Bunting provides some descriptions about the position of the

[71] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), 62-63.

[72] Diran Alexanian, *Complete Cello Technique* (Mineola, NY: Dover, 2003), p. 125.

[73] Ibid., 125.

[74] Maurice Eisenberg, *Cello Playing of Today* (London: Lavender, 1957), p. 91.

thumb when placed on two strings or one on just one string.[75] However, he does not give any guidance on the circumstances under which these thumb placings should be applied.

Paul Tortelier is more specific in this regard. He believes that the thumb should only be held on the A string when the other strings are not being played.[76] This approach is visionary, as the only other method that advocates a similar idea is Victor Sazer's *New Directions in Cello Playing*, which was published twenty years later in 1995.[77] According to Tortelier, this way of playing facilitates a more perpendicular left hand to the strings in higher positions.[78] Tortelier was so convinced by this unusual technical detail that he even recommended only placing the thumb on the A string in his double stop scales, even though both the A and D strings are being used in these instances. His justification for this is based on the wider reaching range of the first finger, which arises because of this positioning.[79] The exercises in the Tortelier method contain specific signs that instruct the player how many strings to put their finger across.[80] Keeping the thumb on just the A string has benefits when playing a four-octave scale. While ascending on the A string across the third and fourth octaves, placing the thumb only on the A string facilitates a more perpendicular position of the left hand which improves the angle of it for a more accurate intonation and provides a smoother change between positions due to reduced resistance while shifting (Figure 3). The consistent repetitive fingering patterns that Tortelier provides throughout his four-octave scales further simplify their execution.

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[75] Christopher Bunting, *Essay on the Craft of Cello Playing*, 2 vols. (London: SJ Music, 1982), vol. 2, p. 60.

[76] David Blum, *Paul Tortelier: A Self-Portrait* (London: Heinemann, 1984), p. 211.

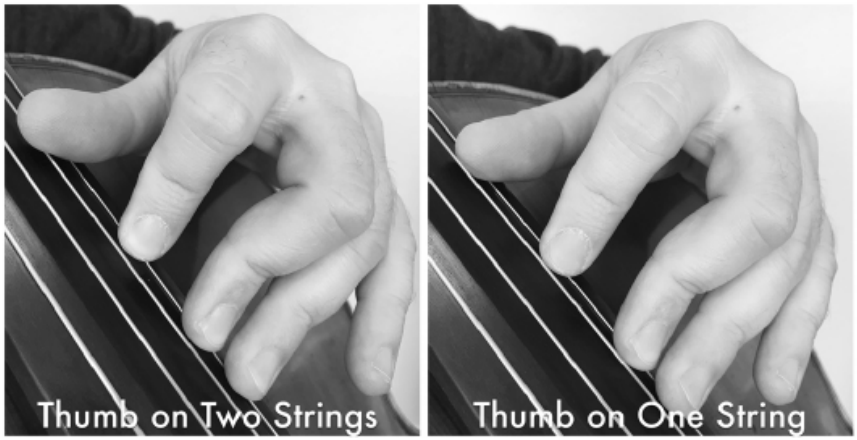
[77] Victor Sazer, *New Directions in Cello Playing* (Los Angeles: Ofnote, 1995), p. 168.

[78] David Blum, *Paul Tortelier: A Self-Portrait* (London: Heinemann, 1984), p. 211.

[79] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 60.

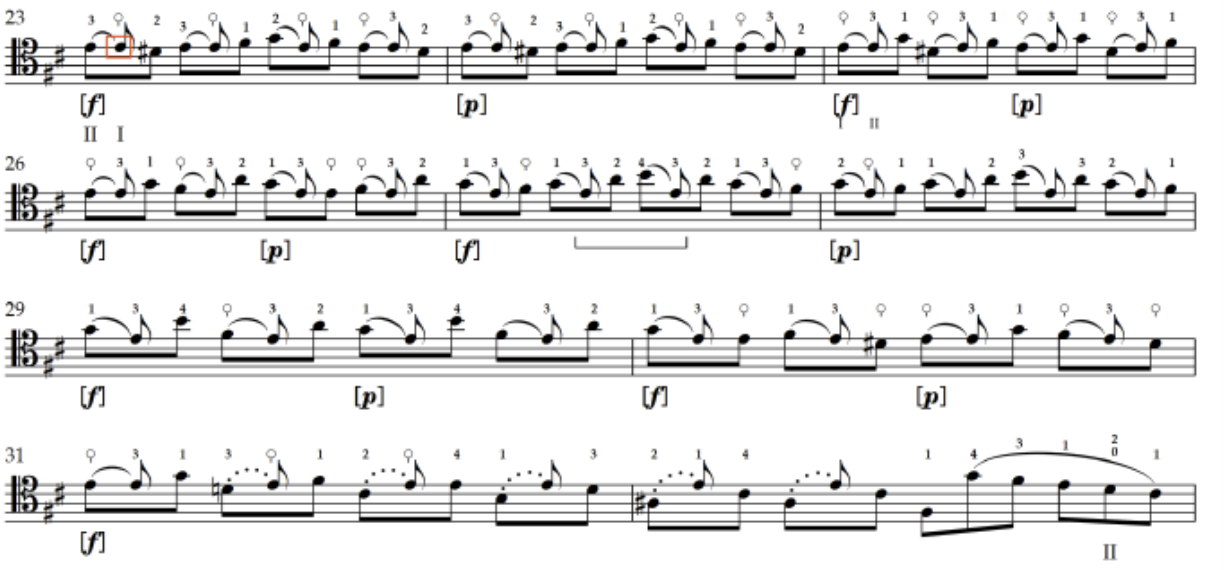
[80] Ibid., 11.

Figure 3: Thumb placed across two strings, and thumb placed across one string only, while playing on the A string.



Numerous excerpts from the standard repertoire contain specific places where keeping the thumb exclusively on one string is beneficial. In the *Prelude* of Bach's Suite No. 6 for Solo Cello, keeping the thumb only on the A string enables greater mobility during the frequent small position changes of the thumb. Furthermore, the perpendicular position of the left hand that arises from this thumb placement facilitates a longer reaching range of the other fingers (Example 15).

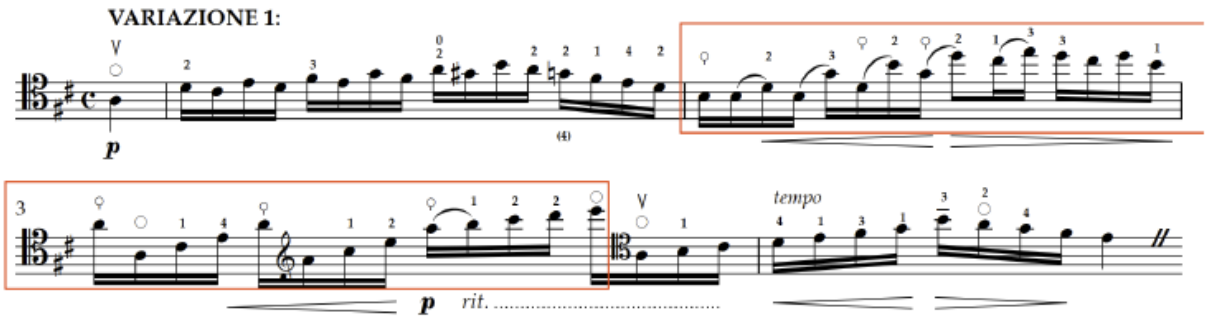
Example 15: *Prelude* of Johann Sebastian Bach's Cello Suite No. 6, BWV 1012, mm. 23-32.[81]



[81] Transcription based on J. S. Bach, *Six Suites for Violoncello Solo*, ed. August Wenzinger (Kassel: Bärenreiter, 1950). Fingerings and bowings edited by the author.

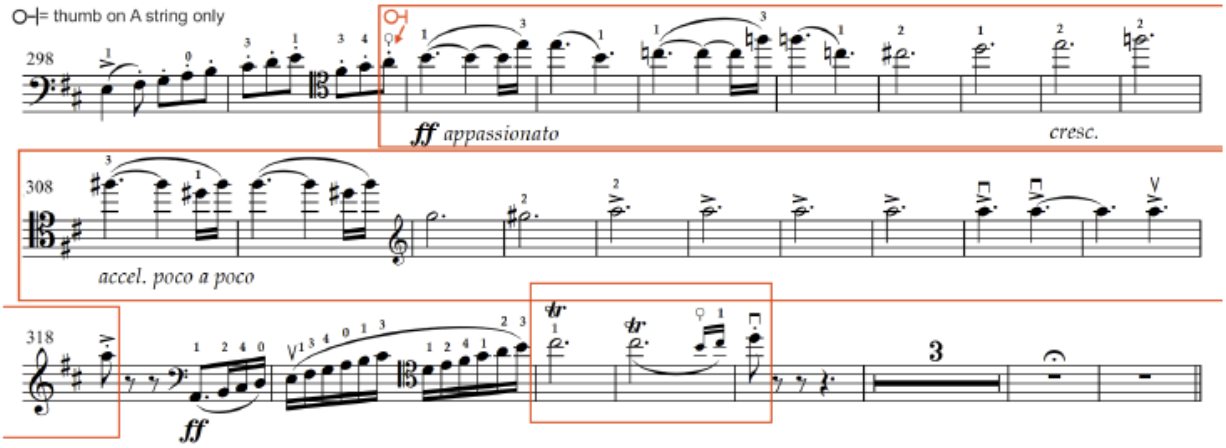
In the first variation of Paganini's *Moses Fantasy*, placing the thumb on just the A string liberates it and greatly reduces the unnecessary friction that would otherwise occur if always kept on two strings. This method of holding the thumb can result in faster speed and more resonance, due to the ringing overtones of the free D string (Example 16).

Example 16: Niccoló Paganini's *Moses Fantasy*, mm. 1-4.[82]



At the end of the third movement of Lalo's Cello Concerto, the long notes in the high positions on the A string will resonate better if the D string is left untouched (Example 17).

Example 17: Édouard Lalo's Cello Concerto in D minor, third movement, mm. 298-327.[83]

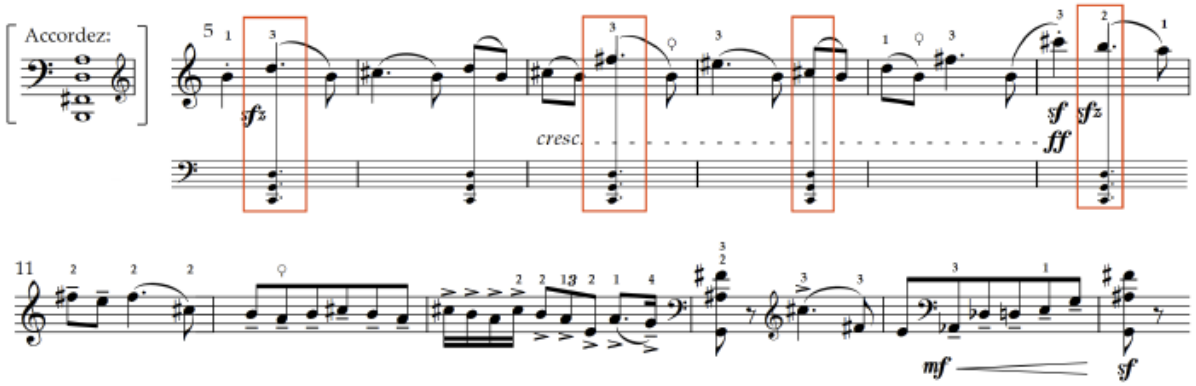


[82] Transcription based on Niccoló Paganini, *Moses Fantasy*, arr. Luigi Silva (Padova: G. Zanibon, 1937). Fingerings and bowings edited by the author.

[83] Transcription based on Édouard Lalo, *Cello Concerto* (Leipzig: Peters, ca.1925). Fingerings and bowings edited by the author.

In some instances, there are occasions when keeping the thumb on only the A string is necessary and even required by the composer. An example of this can be found in the first movement of Kodály's Sonata, Op. 8 for solo cello, where all the open strings are being played as part of a chord as an accompaniment to the singing melody on the A string. Additionally, the perpendicular position of the hand caused by the placement of the thumb on the A string here only further enhances the range of the fingers of the left hand (Example 18).

Example 18: Zoltán Kodály's Sonata, Op. 8 for solo cello, first movement, mm. 5-16.[84]



2.4 Playing "In the Middle of the Flesh of the Finger"

According to Paul Tortelier, a constant fully perpendicular position of the left hand to the fingerboard also opens new possibilities for a richer and freer vibrato by loosening up the last joints of the fingers, so they can connect to the strings with more of their surface. Tortelier calls this type of technique playing "in the middle of the flesh of the finger."[85] In his method *How I Play, How I Teach*, he attributes this way of playing advantageous for slower cantilena passages and supplies his explanations with a photograph to serve as illustration for his ideas.[86] In order to

[84] Transcription based on Zoltán Kodály, *Sonate, Op. 8* (Vienna: Universal Edition, 1921). Fingerings and bowings edited by the author.

[85] David Blum, *Paul Tortelier: A Self-Portrait* (London: Heinemann, 1984), p. 211.

[86] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 24.

achieve a more favorable position for the realization of playing "in the middle of the flesh," he recommends slightly lowering the wrist together with the arm. (Figure 4). However, this should be done on the condition that the wrist remains firm.

Figure 4: Playing "in the middle of the flesh of the finger".

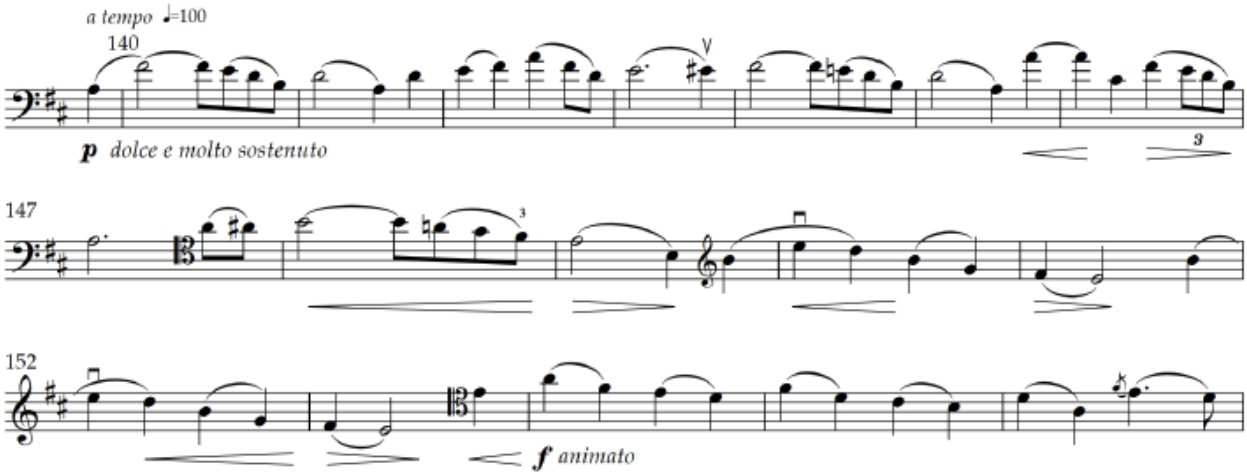
No other method recommends such an unusual approach to left-hand technique. The traditional cello techniques advocate for always fully arched, rounded fingers. Although this venturous way of playing might be intimidating at first and requires a little experimenting, it contributes to a more relaxed vibrato with a wider amplitude. If done correctly, this position of the fingers may also reduce the pressure put on the fingerboard by making it possible for the fingers to slightly pull the string sideways, instead of vertically pressing them down with larger force. Nonetheless, as Tortelier points out, this way of playing mostly works in slower passages where there is enough time to fully relax the last joint of the finger. His idea is somewhat similar to Victor Sazer's views on pulling the string instead of pressing, which he recommends in his book *New Directions in Cello Playing*.[87] However, Sazer's instructions on playing on the side of the string and on the side of the finger are highly unorthodox and may cause problems for vibrato and articulation. In order to do this in the lower registers, Sazer even recommends raising the nut for a

[87] Victor Sazer, *New Directions in Cello Playing* (Los Angeles: Ofnote, 1995), p. 136.

higher clearance between the strings and the fingerboard. [88] This type of setup may lead to serious strains in the left hand.

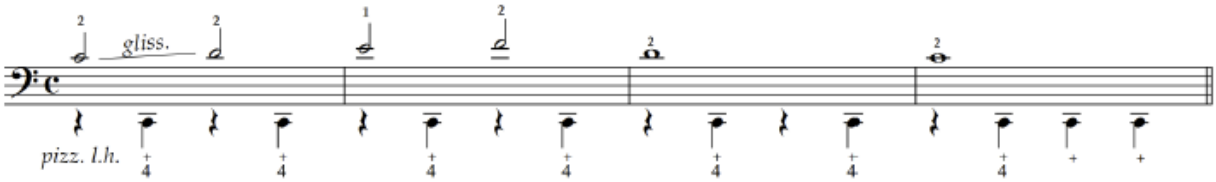
The lyrical second theme from the first movement of Dvořák' s Cello Concerto is an ideal place where playing "in the middle of the flesh" could prove beneficial (Example 19).

Example 19: Antonín Dvořák's Concerto for Cello and Orchestra in B Minor, Op. 104, first movement, mm. 140-165.[89]



Acquiring the technique of the flattened fingers is a lengthy process which requires constant discipline and full attention. It can mostly be learned by playing scales and through the slow practice of lyrical passages. However, Tortelier does supply a special short exercise in his method which could prove useful for mastering this unique technique (Example 20).

Example 20: Paul Tortelier's exercise for flattening the second finger. [90]



N.B. The 4th finger pizzicati help to keep the forearm supple during the rests.

[88] Victor Sazer, *New Directions in Cello Playing* (Los Angeles: Ofnote, 1995), p. 142.

[89] Transcription based on Antonín Dvořák, *Cello Concerto* (Berlin: N. Simrock, 1896). Fingerings and bowings edited by the author.

[90] Transcription based on Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 96.

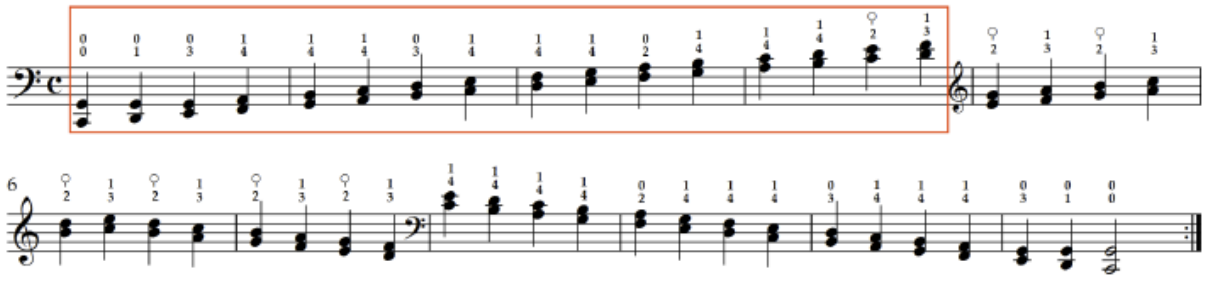
2.5 New Fingerings for Double-Stops

Another novelty introduced in the method book are the unconventional fingerings for double-stop third and octave scales. By using the second, third, and fourth finger in these double-stops along with the thumb throughout the entire register of the cello, the player can achieve a smoother legato between each consecutive interval and string-crossing.

Tortelier's double-stop third fingering pattern is particularly advantageous in the lower neck position where the distances between the fingers are significantly larger. By eliminating the constant extension between the fourth and first finger which is usually present in the lower positions of the traditional fingering, the strain put on the left hand is significantly reduced. According to his description, this new third fingering, which alternates the thumb/2 and thumb/3 for major thirds and minor thirds respectively, facilitates a smoother connection between the intervals, thus resulting in a more effortless legato.[91] Additionally, this hand position opens up possibilities for a wider and more balanced vibrato as the weight of the hand is equally divided by resting entirely on the strings.

Examples 21 and 22 illustrate the difference between the traditional double-stop third fingering and the Tortelier double-stop third fingering.

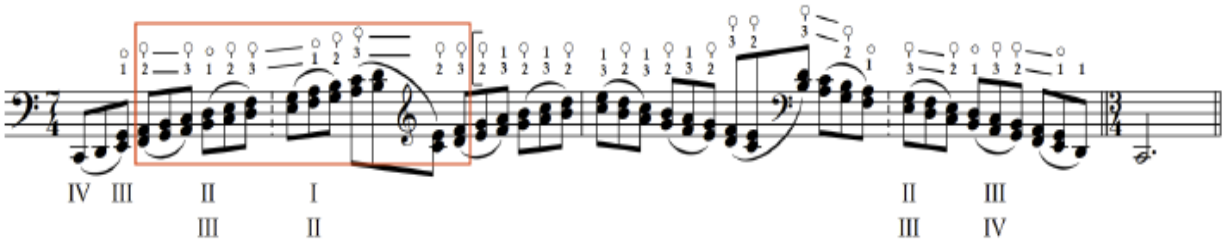
Example 21: Traditional C Major double-stop third scale in Frank Maurits' (1892-1959) *Scales and Arpeggios*.[92]



[91] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 111.

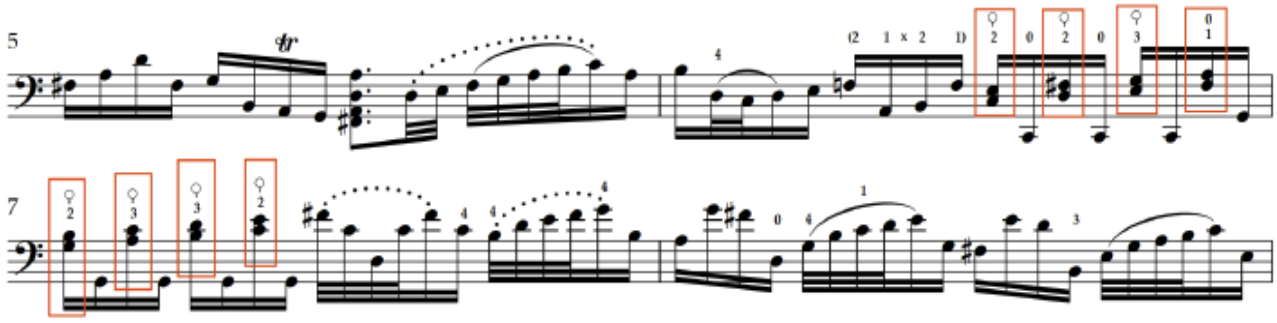
[92] Transcription based on Frank Maurits, *Scales and Arpeggios* (Mainz: Schott, 1925), p. 5.

Example 22: C Major double-stop third scale in *How I Play, How I Teach*.[93]



Tortelier's double-stop third scale fingerings in the lower registers can often be utilized within the standard repertoire. The ascending third scale passage in the *Allemande* movement of Bach's Cello Suite No. 3 in C Major is an example where his solution could be appropriate (Example 23).

Example 23: *Allemande* of Johann Sebastian Bach's Cello Suite No. 3, BWV 1009, mm 5-8.[94]

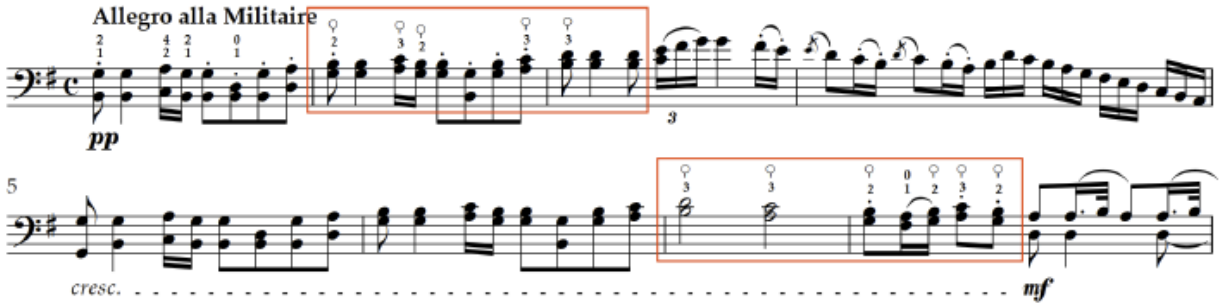


Another example can be found in the second and third movements of Boccherini's Sonata in G Major (Examples 24 and 25). Here, the Tortelier fingerings allow for a smoother position change between the consequent third intervals. Similarly, in the first four measures of the third movement, a more connected legato can be achieved using these new fingerings (Example 26).

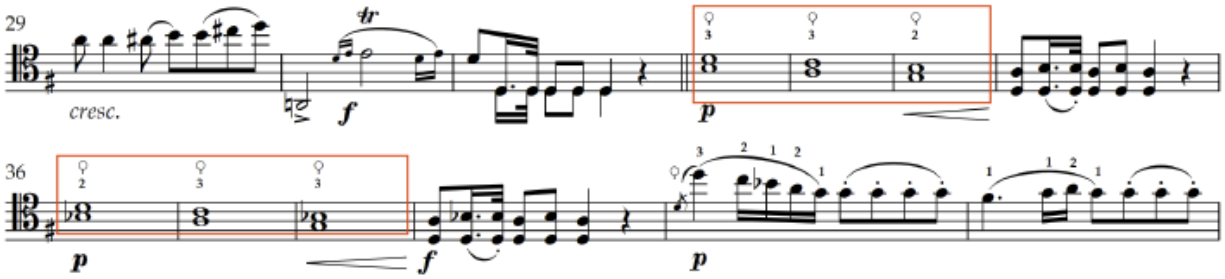
[93] Transcription based on Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 111.

[94] Transcription based on J. S. Bach, *Six Suites for Violoncello Solo*, ed. August Wenzinger (Kassel: Bärenreiter, 1950). Fingerings and bowings edited by the author.

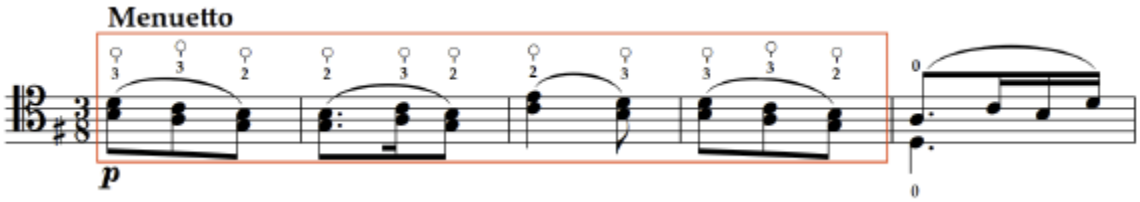
Example 24: Luigi Boccherini's Sonata No. 5 in G Major, second movement, mm. 1-8.[95]



Example 25: Luigi Boccherini's Sonata No. 5 in G Major, second movement, mm. 29-41.[96]



Example 26: Luigi Boccherini's Sonata No. 5 in G Major, third movement, mm. 1-5.[97]



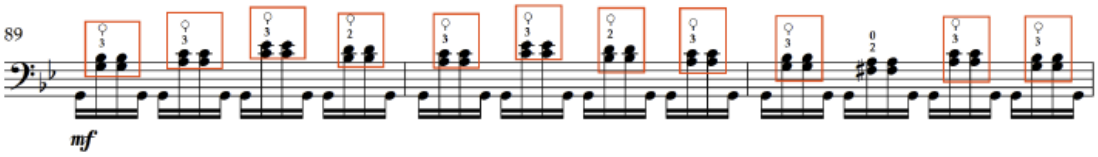
Further applications of this new third scale fingering include excerpts taken from Halvorsen's *Passacaglia* in G Minor (Example 27), and a short lyrical double-stop segment from the third movement of Dvořák's Cello Concerto (Example 28).

[95] Transcription based on Luigi Boccherini, *Sei Sonate per Violoncello*, ed. Alfredo Piatti (Milan: Ricordi, 1932). Fingerings and bowings edited by the author.

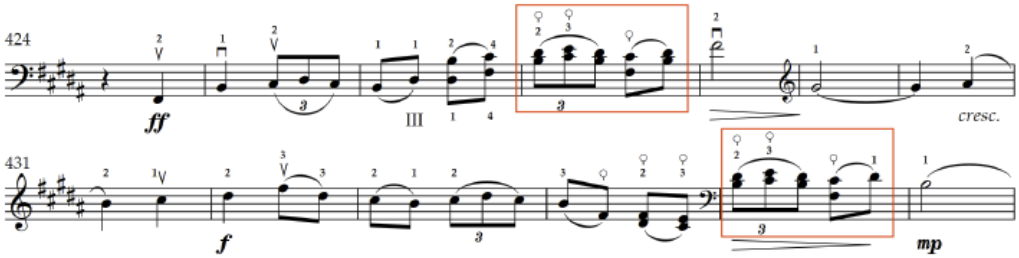
[96] Ibid.

[97] Ibid.

Example 27: Johan Halvorsen's *Passacaglia* in G Minor on a theme by Georg Friederich Händel, mm. 89-91.[98]

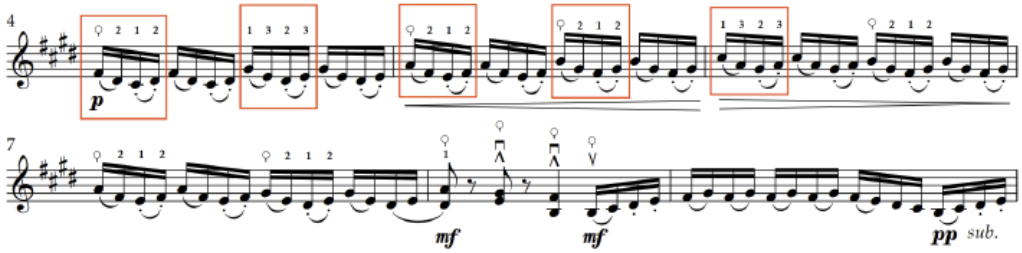


Example 28: Antonín Dvořák's Concerto for Cello and Orchestra in B Minor, Op. 104, third movement, mm. 424-436.[99]



An interesting illustration of Tortelier's fingerings, this time in the higher positions, is the section between mm. 4-7 in the rapid second movement of Valentini's Sonata No. 10 in E Major (Example 29). Although there are no apparent sounding double-stops present here, the position of the left hand must be set up according to the double-stop shape, so that the fingers are arranged for the intervals of ascending and descending thirds in advance.

Example 29: Giuseppe Valentini's Sonata No. 10 in E Major, second movement, mm. 4-9.[100]



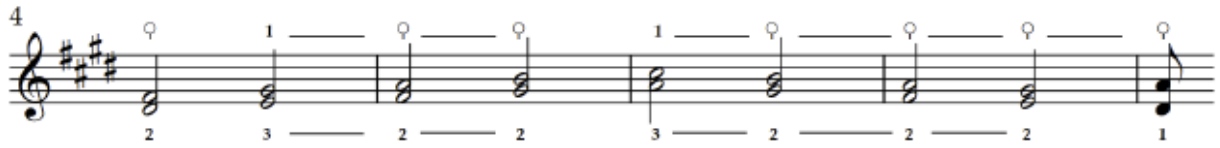
[98] Transcription based on Johan Halvorsen, *Passacaglia für Violine und Violoncello*, arr. Michael Press (Copenhagen: Wilhelm Hansen, 1955). Fingerings and bowings edited by the author.

[99] Transcription based on Antonín Dvořák, *Cello Concerto* (Berlin: N. Simrock, 1896). Fingerings and bowings edited by the author.

[100] Transcription based on Giuseppe Valentini, *Sonata for Cello and Keyboard No. 10 in E Major*, ed. Paul Tortelier (London: Chester Music, 1977). Fingerings and bowings edited by the author.

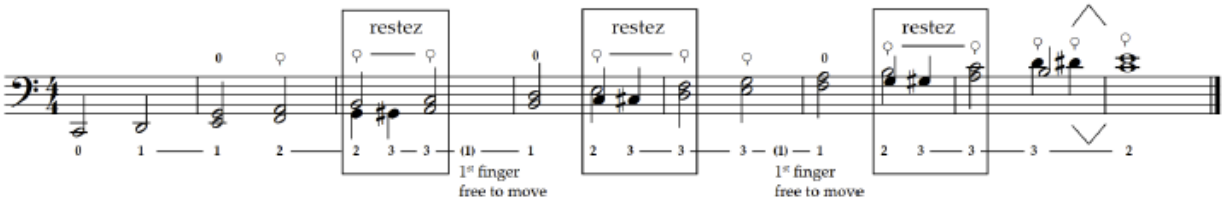
Thus, to obtain a correct left-hand setup, this passage should be practiced slowly, in consecutive double-stop thirds (Example 30).

Example 30: The double-stop structure pattern of mm. 4-9 in the second movement of Valentini's Sonata No. 10 in E Major.



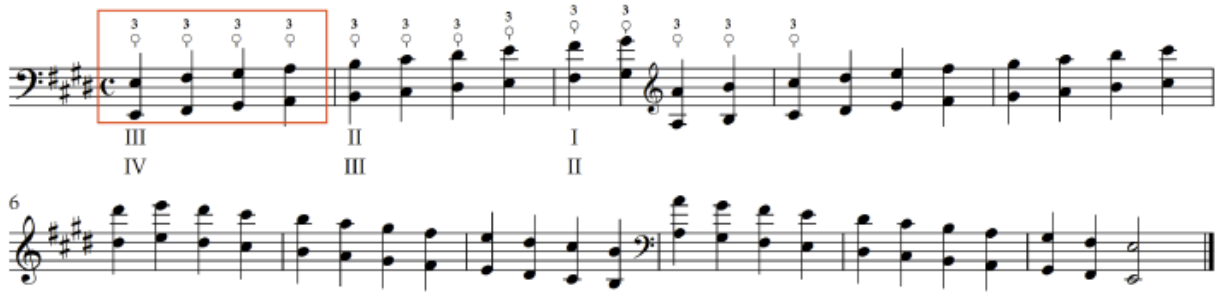
Tortelier does not provide instructions on how to efficiently practice his double-stop third fingerings in the lower neck positions. Having no systematic approach can prove to be a wasteful and time-consuming process, which can potentially lead to unfavorable results and discourage players from taking advantage of these solutions. The principle of these fingerings is that the hand moves as a single unit between the two blocks of double-stops; however, the spatial relation between the thumb and the other fingers frequently changes depending on the type of the interval (major to minor third or vice-versa). Since major thirds are played with thumb/2 and minor thirds with thumb/3, it is advisable to adjust the changing finger first before executing the single unit hand shift between the two intervals of different size (Example 31). It is crucial that the sliding of the hand between the two intervals is gradual, gentle, and slow, in order to leave enough time for the hand to adjust to the proportionate diminishing or extending of its inner frame. Additional aid for intonation control includes the constant checking of pitch accuracy through the thumb and the first finger, which must always form the interval of a perfect fourth. When the interval of a third includes an open string, the first finger is assigned to the bottom note. This finger can easily be prepared beforehand in these cases, as it is not being used in the previous positions.

Example 31: Systematic method of practicing the Tortelier fingerings for the double-stop third scales in the neck positions.



Although Tortelier does not include double-stop scale fingerings for sixths in his book, his new fingerings for octave scales are likewise worthy of discussion. He recommends a fingering which takes advantage of the alternating use of the third and fourth fingers when crossing strings within the scale. Traditional fingerings consistently use the thumb and the third finger on every note of the scale, even when a string-crossing occurs. When shifting the hand from one pair of string to another using the traditional fingering (Example 32), great care must be taken to reduce the slight gap resulting from the simultaneous transfer of both the thumb and the third finger from one string to another. A sudden transition may negatively affect the sound quality, especially in a sensitive legato passage.

Example 32: Traditional E Major double-stop octave scale from Frank Maurits' *Scales and Arpeggios*.[101]

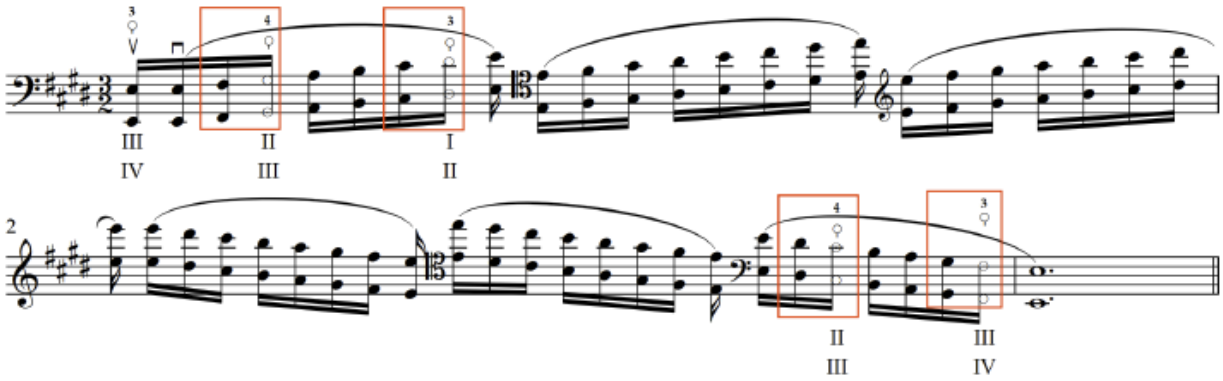


By using Paul Tortelier's new fingerings (Example 33), the potential gap between the string changes can be reduced by alternating the third and fourth fingers when a string change occurs.

[101] Transcription based on Frank Maurits, *Scales and Arpeggios* (Mainz: Schott, 1925), p. 45.

This means that the octaves on each pair of strings will be covered with either the thumb and the third finger, or the thumb and the fourth finger, alternately. Due to the preparation and readiness of the free finger above the string, a smoother transition can be achieved, because this way only the thumb needs to shift from one string to another. As instructed by Tortelier, the player should bring the fourth or third finger readily above the new string in advance of the string change.[102] The double-stop octave scales in *How I Play, How I Teach* are supplied with preparatory exercises which focus on the exchange between the third finger and the fourth finger during these string changes.

Example 33: E Major double-stop octave scale in *How I Play, How I Teach*.[103]



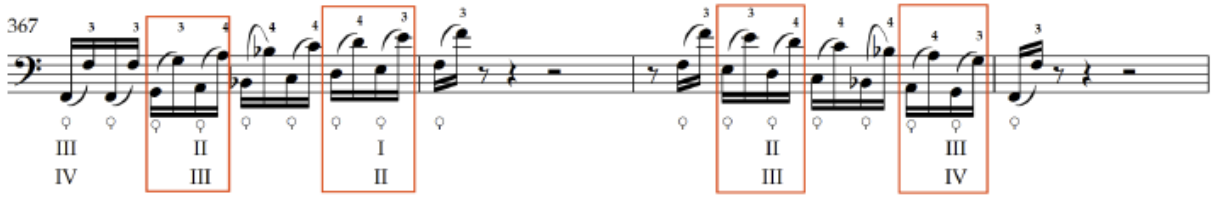
While it represents an interesting idea, the use of Tortelier's octave fingerings is mostly limited to the practice of four-octave scales as a type of extended technique. Nevertheless, it serves as a useful tool for developing the octave interval relation between the thumb and the little finger. Since the standard cello repertoire rarely encounters octave passages which include string-crossings, this innovation remains mostly unexploited. A potential example from the repertoire where Tortelier's unconventional fingerings could be employed is the low register octave passage

[102] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 102.

[103] Ibid., p. 105.

in the first movement of Beethoven's Triple Concerto (Example 34). However, this fingering can only prove beneficial if the player decides to play these broken octave runs by executing multiple string crossings.

Example 34: Ludwig van Beethoven's "Triple" Concerto for Violin, Cello, and Piano in C Major, Op. 56, first movement, mm. 367-370.[104]



As an example of Tortelier's revolutionary efforts in proving a new dimension of possibilities for the technique of the cello, his octave fingering ideas are yet to be recognized by future generations.

[104] Transcription based on Ludwig van Beethoven, *Concerto for Violin, Cello & Piano in C, Op. 56, "Triple"* (München: Henle, 1996). Fingerings and bowings edited by the author.

CHAPTER 3

RIGHT-HAND TECHNIQUE IN HOW I PLAY, HOW I TEACH

Although Tortelier claims he mostly emphasizes the technique of the left hand as a pedagogue,[105] his approach to the technique of the right hand and its fingers is equally significant. In his conversations with David Blum (1935-1998), Tortelier describes the bow as a continuation of the arm.[106] His instructions on bow hold are based on the relaxation of the right elbow, in order for the right arm to form an unbroken line with the shoulder and the hand.[107]

However, Tortelier's most important contribution to the technique of the right hand is his attention to finger involvement in balancing the bow, including weight distribution among the fingers holding the stick, especially the thumb. Unlike Eisenberg and Alexanian, who do not attribute as much attention towards the flexibility of the right thumb in their treatises, Tortelier stresses the importance of this often neglected but important finger by specifically defining its proper use in his comprehensive *Rules for the Thumb* paragraph.[108] By emphasizing the complete flexibility of the thumb of the right hand, he improves the Casals approach, as there are no detailed descriptions about the importance of this finger in Alexanian's *Complete Cello Technique* treatise either.

Besides guidance on obtaining a well-trained right hand, Tortelier implements additional help by defining the highly sophisticated right-hand motion required for bow changes at the frog. To properly master this complex action, he provides exercises which help the fingers gain strength and independence while synchronizing the slightly delayed movement between the wrist and

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[105] David Blum, *Paul Tortelier: A Self-Portrait* (London: Heinemann, 1984), p. 210.

[106] Ibid., 212.

[107] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 15.

[108] Ibid., 21.

elbow. Finger, wrist, and elbow flexibility are all needed for the successful execution of a smooth bow change at the frog. Further useful descriptions within the right-hand chapters include a spiccato drill that builds a percussive, more audible spiccato, exercises that develop an independent wrist technique, along with an interesting explanation of how to roll the bow through its whole length to manipulate the angle of the stick and the color of the sound.

3.1 "Rolling the Stick of the Bow"

The flexibility of a relaxed right thumb enables a set of particularly useful resources for the sound production of the bow arm. If relaxed, a flexed thumb can contract and extend while the bow is in motion, acting as a spring and shock absorber. This idling of the thumb also stimulates the loosening of the other fingers on the bow. If both the thumb and the other fingers work together in an up- and downward circular motion while moving the bow on the string, the "rolling of the stick of the bow" appears. This technique is only possible using active but relaxed finger joints. Eisenberg mentions rolling the bow in his treatise; however, he mostly describes it as a technique in context of playing on the upper half of the bow in order to restore the connection of the string with the full bow hair for a more equal tone.[109] Besides giving a vague description of the finger movements required for manipulating the horizontal rotation of the stick supplied by a short exercise, Eisenberg does not provide a detailed explanation of the role of the bent thumb and the other fingers, and of how to fully take advantage of this sophisticated movement.

Gerhard Mantel, a professor at the *Hochschule für Musik und Darstellende Kunst* in Frankfurt, introduces his theory about the idea of playing with full hair in his book *Cello Technique: Principles & Forms of Movement* (1972). Namely, he states that the angle and amount

[109] Maurice Eisenberg, *Cello Playing of Today* (London: Lavender, 1957), p. 22.

of the bow hair on the string does not influence the sound quality.[110] He concludes that with sufficient pressure, the full amount of hair will inevitably touch the strings anyway, regardless of the angle of rotation of the bow. Nevertheless, even Mantel states that a tilted bow hair has its advantages in playing a *pianissimo*, just as a perpendicular bow to the string is useful for *spiccato* playing.[111] According to him, the angle of rotation of the stick on the strings and the amount of hair connected to the strings change the flexibility of the bow, which, even if does not influence sound quality, affects playability and sound control.

In his method, Tortelier describes the action of rolling the stick similar to that of a smoker rolling a cigarette.[112] Under the right-hand chapter of *How I Play, How I Teach*, multiple exercises are provided to combat the natural weaknesses of the right hand, which include fighting the immobility of the thumb, strengthening the other fingers, and freeing up the index finger and the wrist.[113] Tortelier believed that the flexibility of the thumb, along with the other fingers, play a major role in the execution of the bow changes. If flexible, the fingers and the joints of the hand facilitate a smoother change of bow direction at the frog, where bow-changes prove to be the most difficult.[114] Utilizing the rotation of the bow ("rolling the stick") through an elastic thumb and the rocking of the fingers during bow changes, the flexible wrist can buffer the larger motion of the arm by preventing a complete stop of the right hand and by preserving the slight continuous motion of the bow. Thus, the audible shocks which occur when changing the bow direction at the frog can

[110] Gerhard Mantel, *Cello Technique: Principles & Forms of Movement*, trans. Barbara Haimberger Thiem (Bloomington, IN: Indiana University Press, 1975), p. 134.

[111] Ibid., 134.

[112] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 37.

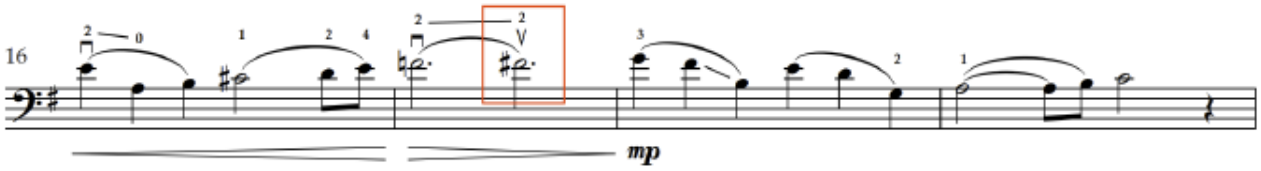
[113] Ibid., 36-40.

[114] Ibid., 47.

be prevented. This hand action, when paired with an independent elbow in relation to the wrist,[115] requires all the joints of the right hand to actively participate in the procedure of the bow change.

Besides promoting a smooth bow change at the frog, the technique of rolling the bow can also result in changes of tone color and dynamics when paired with the simultaneous contracting and extending motion of a flexible elbow. The elbow is highly responsible for determining the horizontal direction and position of the bow on the strings. As pointed out by Victor Sazer in his method, the angle of the bow determines the amount of friction being generated by the contact between the bow and the string.[116] When rolling the bow, the reduction of horsehair on the string also results in the loss of the weight of the hand perpendicular to the strings. In these cases, an immediate decrease of sound and softening of tone can be achieved. If this movement is paired with an inward contraction of the elbow, the angle changes eventuate a sudden diminuendo and bow speed reduction in the right hand. This technique proves very useful in the literature, when a rapid diminuendo must be realized on a slow up-bow, where the stick is heading towards its naturally heavier part, the frog. The following examples from the literature illustrate where this kind of technique could prove as a useful resource (Examples 35, 36, and 37).

Example 35: *The Swan* from *Carnival of the Animals* by Camille Saint-Saëns, mm. 16-19.[117]

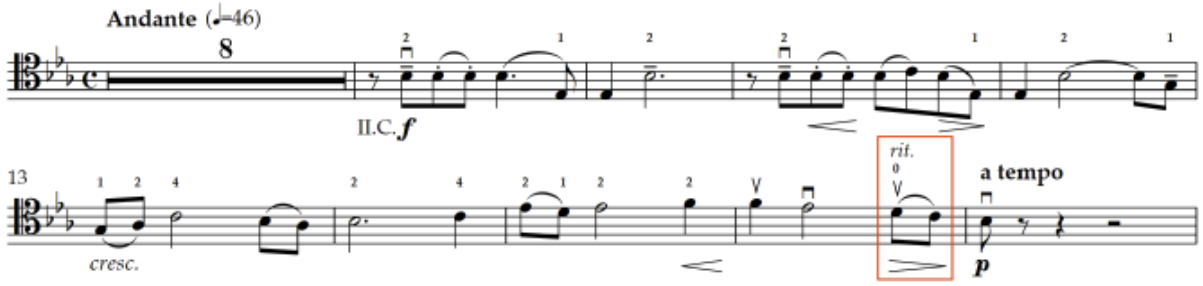


[115] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 43.

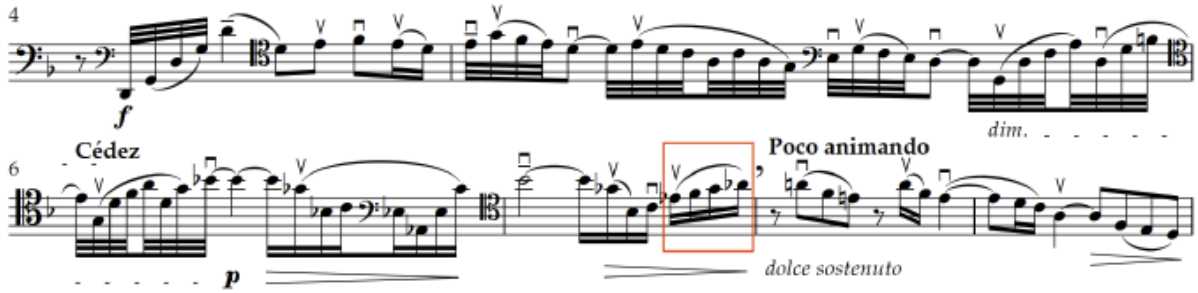
[116] Victor Sazer, *New Directions in Cello Playing* (Los Angeles: Ofnote, 1995), p. 97.

[117] Transcription based on Camille Saint-Saëns, *The Swan*, ed. Jacqueline du Pré (London: Fentone Music, 1982).

Example 36: Sergei Rachmaninov's Sonata for Cello and Piano in G Minor, Op. 19, third movement, mm. 1-17.[118]



Example 37: Claude Debussy's Cello Sonata, first movement, mm. 4-9.[119]



3.2 Percussive *Spiccato* Technique

Spiccato is among the more difficult bowing techniques to clearly describe and successfully master. Cello pedagogues often disagree on the teaching of this technique. Interestingly, Diran Alexanian avoids the description and explanation of *spiccato* in his comprehensive treatise. Similarly, William Pleeth does not provide any discussion about this type of bowing in his book, *Cello* (1982).

Although most pedagogues agree on *spiccato* being a percussive off-string bowing produced by a short half circle "parabola" stroke to the strings with the bow, they provide different

[118] Transcription based on Sergei Rachmaninov, *Sonata for Cello and Piano* (Moscow: Muzgiz, 1950). Fingerings and bowings edited by the author.

[119] Transcription based on Claude Debussy, *Sonate* (Paris: Durand & Cie., 1915). Fingerings and bowings edited by the author.

explanations on the method of practicing and executing this repetitive rapid bowing. As an example, in his method *Cello Pedagogy: On Becoming You* (1972) Arpad Szomoru (1923-1987) attributes the most importance to the third and fourth finger for the execution of a proper *spiccato* bowing.[120] Maurice Eisenberg also describes *spiccato* as a percussive bowing that originates from the wrist.[121] Although Eisenberg advocates an advantageous firm bow hold, he does not emphasize the importance of the relaxation of the elbow. To produce a rubbing bow stroke with fast motion of the wrist, Eisenberg recommends a higher elbow. While providing a detailed explanation about the angle of the bow and the balance point of the bow, Eisenberg fails to stress the importance of the independence of the elbow from the wrist. This independence is crucial in achieving a slight displacement between the two, in order to avoid muscle cramps which can occur when playing fast *spiccato* bowings for a longer duration. Likewise, Aldo Pais neglects the importance of a relaxed elbow by stating that the motions of the arm and forearm are useless for a fast *spiccato*.[122] In a long and complex chapter about off-string bowings in *Cello Technique: Principles & Forms of Movement*, Gerhard Mantel emphasizes the flexing and extending of the index finger that occurs in very fast *spiccato* passages.[123] However, Mantel's detailed explanation does not cover the role of a relaxed elbow in *spiccato* passages either. His definition of *spiccato* is based mostly on wrist and finger actions. If his instructions are misinterpreted and the movements of this bow stroke are strictly limited to the wrist and index finger, they may lead to stiffness of the upper and lower arm, which will inevitably spread to the whole hand over time.

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[120] Arpad Szomoru, *Cello Pedagogy: On Becoming You* (Orlando, FL: Performing Arts Institute of North America, 1972), p. 82.

[121] Maurice Eisenberg, *Cello Playing of Today* (London: Lavender, 1957), pp. 41-44.

[122] Aldo Pais, *The Technique of the Bow for Violoncello* (Milano: Edizioni Curci, 1977), p. 65.

[123] Gerhard Mantel, *Cello Technique: Principles & Forms of Movement*, trans. Barbara Haimberger Thiem (Bloomington, IN: Indiana University Press, 1975), p. 223.

Christopher Bunting's systematic explanation of *spiccato* is the most similar to Tortelier's. In his *Essay on the Craft of Cello Playing*, Bunting approaches it via *ricochet* exercises. According to him, *spiccato* is directly connected to *ricochet*, which also takes advantage of the bow's natural elasticity on the string.[124] In order to teach *spiccato*, Bunting supplies his explanation with an extensive amount of *ricochet* exercises on all the strings, gradually converting these exercises into *spiccato* bowing drills. His idea of the *ricochet* being a foundation for a good *spiccato* is based on the similar relaxation of the arm, necessary for both types of strokes. Essentially, a percussive and articulate *spiccato* is in fact a directed, "tamed" *ricochet* moving in both directions on the bow. Thus, *spiccato* is a product of a controlled "chain-reaction" of the natural bouncing of the stick. In his explanation, Bunting stresses the importance of all the fingers on the bow (mostly the index finger), the mandatory flexed thumb, and the torsional effect in the hand as a whole, which are all the indicators of a relaxed arm.[125]

Tortelier's approach is closer Bunting's. In his method, published seven years prior to Bunting's essay, Tortelier provides a concise, straightforward elaboration of his views on the *spiccato* technique. He supplies his ideas with target-specific, simple exercises. According to Tortelier's ideas, a very percussive *spiccato* should derive from the natural, vertical bouncing of the bow, maintained by the index finger and the little finger, and by adding a small wrist action.[126] In order to help maintain the controlled pulse of the bouncing bow, small accents are added to each of the down-bow strokes.

However, what makes Tortelier's instructions for *spiccato* complete is the short chapter

[124] Christopher Bunting, *Essay on the Craft of Cello Playing*, 2 vols. (London: SJ Music, 1982), vol. 1, p. 42.

[125] Ibid., pp. 42-62.

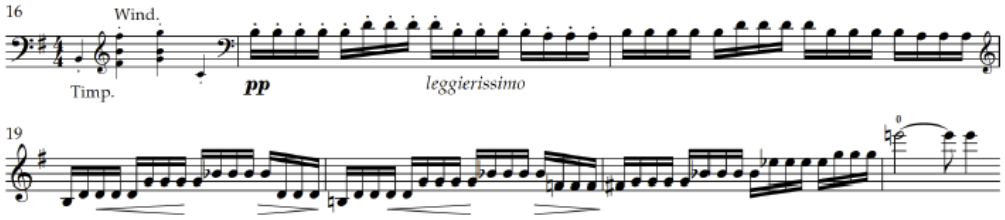
[126] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 41.

titled *To Obtain Independence of the Elbow in Relation to the Wrist*.[127] In this section, he points out the necessary small displacement between the elbow and the wrist during the fast and repetitive bow strokes. If the elbow and the forearm are moving as a single unit, the rapid oscillation of the wrist may lead to muscle cramps in the larger surfaces of the forearm and shoulder. To relax the hand, a non-simultaneous, opposite direction slight swinging is necessary between the hand and the arm. This displacement can be achieved through a slight delay between the movement of the wrist (and fingers) and the elbow. In this case, a lower loose elbow position is advantageous to maintain the relaxed feel of the arm and shoulder. If paired with the previously described half circle "parabola" off-string stroke of the bow, a relaxed, long-lasting percussive *spiccato* can be achieved. However, while highly articulate, this type of *spiccato* does have a limited speed before it becomes a *sautillé* stroke.

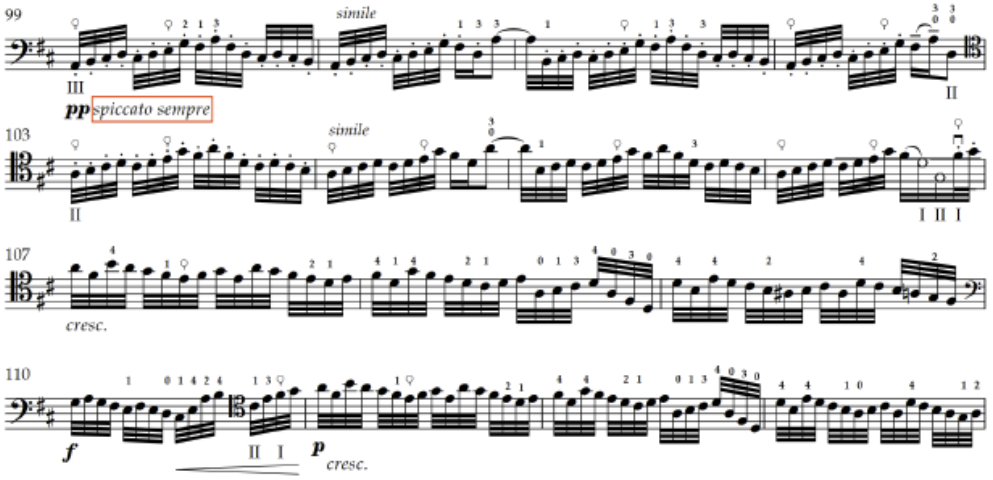
Tortelier's preferred *spiccato* stroke produces a highly articulate sound, with an occasional white noise resulting from the intense percussive vertical-horizontal strike of the bow on the strings. These sidetones add an additional layer of articulation to the sound, and their presence does not create distraction as they disappear in a larger area. Thus, a percussive and articulate *spiccato* is especially beneficial when more projection is needed over an orchestra accompaniment in today's spacious concert halls. Such examples in the standard repertoire include the second movement of Elgar's Cello Concerto (Example 38), the fast sections of Tchaikovsky's *Pezzo Capriccioso* (Example 39), and the *Finale* of Gulda's Concerto for Cello and Wind Orchestra (Example 40).

[127] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 43.

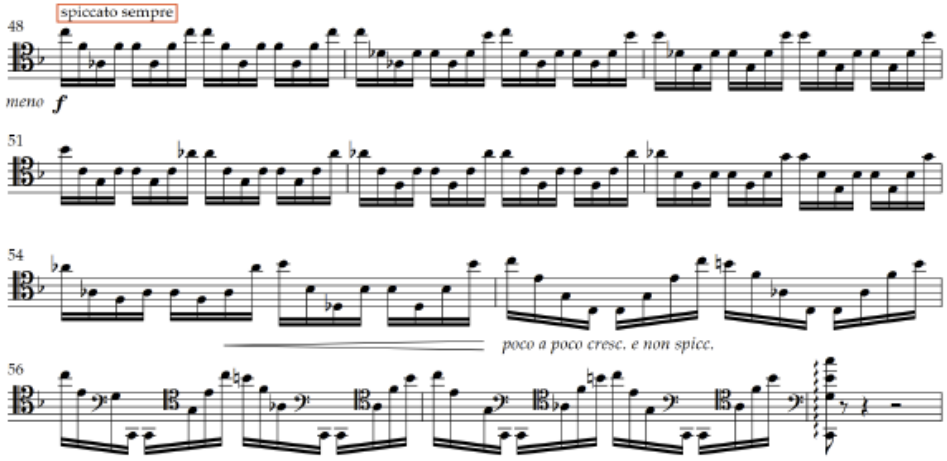
Example 38: Edward Elgar's Cello Concerto in E Minor, Op. 85, second movement, mm. 16-22.[128]



Example 39: Pyotr Ilyich Tchaikovsky's *Pezzo Capriccioso* Op. 62 for cello and orchestra, mm. 99-113.[129]



Example 40: *Finale* of Friedrich Gulda's Concerto for Cello and Wind Orchestra, mm. 48-58.[130]



[128] Transcription based on Edward Elgar, *Cello Concerto* (London: Novello & Co., 1919).

[129] Transcription based on Pyotr Ilyich Tchaikovsky, *Pezzo Capriccioso* (Moscow: Muzyka, 1970). Fingerings and bowings edited by the author.

[130] Transcription based on Friedrich Gulda, *Concerto for Cello and Wind Orchestra* (Vienna: Papageno, 1989).

CHAPTER 4

UNORTHODOX INNOVATIONS IN *HOW I PLAY, HOW I TEACH*

What makes Tortelier's *How I Play, How I Teach* method truly unique are the more extreme concepts he introduces among the chapters of his work. These ideas represent their author's truly visionary approach towards modern cello playing. They include the idea of the "pianistic passing of the thumb," keeping the thumb underneath the fingerboard in high positions, and his new special pizzicato effects. These technical innovations failed to gain significant popularity since their publication due to their controversial efficacy and dependency on the player's physique. Nevertheless, they serve as interesting and daring examples of an extended modern cello technique that are also applicable to the warhorse pieces of the standard cello repertoire.

4.1 The "Pianistic Passing of the Thumb"

A radically new idea introduced by the Tortelier method is the technique of the "pianistic passing of the thumb." According to Tortelier, this technique had never been previously mentioned in any other method book.[131] The controversial idea of passing the thumb underneath a still actively playing first finger is a type of extended technique of cello playing, an addition to the technical arsenal of an established player. Its application within the standard repertoire is rare, always requiring careful prior planning and preparation. However, this unique technical solution can be utilized under special circumstances when it is justified by the technical and musical benefits it produces. Large hands and longer fingers prove to be helpful for this technique, making it more dependent on the players' physical capabilities. If misinterpreted or not sufficiently mastered, it

[131] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 9.

can lead to strain and injury of the left hand. Thus, the use of the pianistic passing of the thumb should only be attempted by more experienced players.

Tortelier does not provide much detailed written explanation on how to execute this innovation. No photos or illustrations are supplied for it in *How I Play, How I Teach*. According to his instructions, the stationary index finger should be rocked toward the bridge while the thumb passes underneath it.[132] The position of the hand should always remain secure while the thumb is being prepared to move. It should be noted that like most of Tortelier's other technical novelties, this technique can only be successfully executed with the left hand completely perpendicular to the fingerboard (Figure 5).

Figure 5: The "pianistic passing of the thumb."

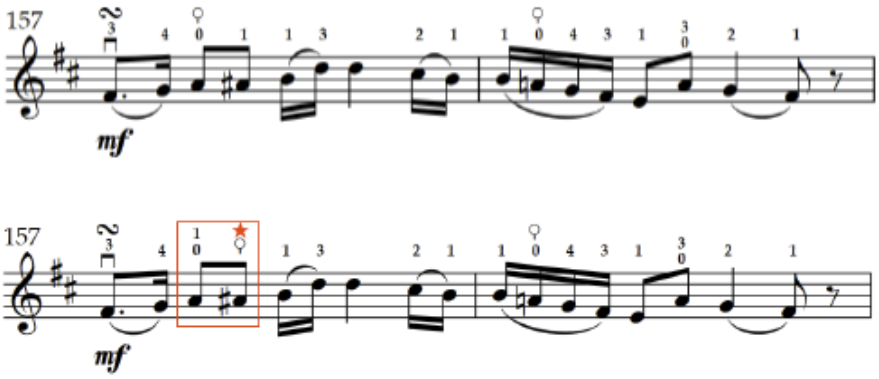
In order to avoid destabilizing the index finger by hitting it with the thumb while passing behind it, the cellist should swing the elbow ahead and gradually bend the thumb when leaping forward with it behind the index finger. To point out the advantages of this specific fingering

[132] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 117.

solution, Tortelier provides multiple exercises for it and lists various places from the standard repertoire where this technique can be effectively put into practice.[133] If applied correctly, the "pianistic passing of the thumb" can help avoid any audible small shifts. It can also prove useful for a steadier intonation if the balance of the hand through the stationary index finger is fully retained. Nevertheless, this procedure involves a more complicated finger movement than a regular short shift, which can result in a loss of speed, accuracy, and agility. It tends to work better in slow to moderate tempi, and if not executed carefully, it poses risks to secure intonation and hand stability.

The following passage from the first movement of Haydn's Concerto for Cello and Orchestra No. 2 in D Major is an additional instance where the "pianistic passing of the thumb" can be employed. With its application the position change between the A# and the B natural can be evaded. The two examples below show the difference between a standard fingering and Tortelier's "pianistic passing of the thumb" (Example 41).

Example 41: Joseph Haydn's Concerto for Cello and Orchestra in D Major, Hob. VII b: 2, first movement, mm. 157-158.[134]



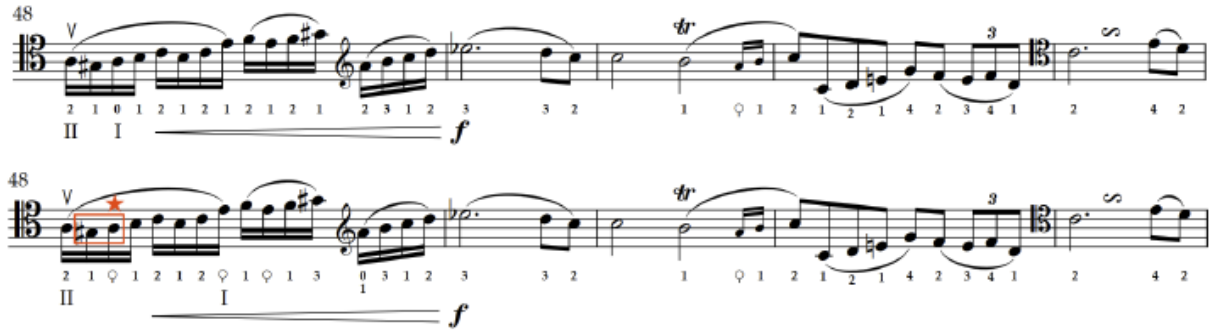
Another example of the difference between the standard fingering and the "pianistic

[133] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), pp. 118-119.

[134] Transcription based on Joseph Haydn, *Concerto for Violoncello and Orchestra in D Major, Hob. VII b: 2*, ed. Maurice Gendron (Mainz: Schott, 1954). Fingerings and bowings edited by the author.

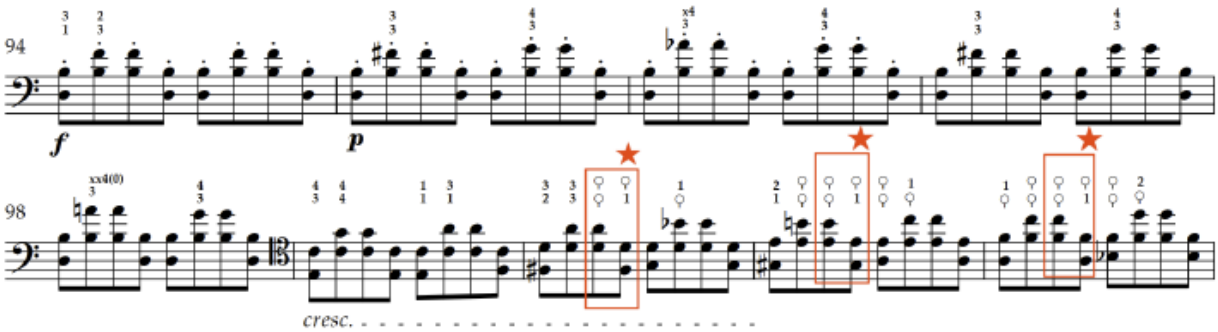
passing of the thumb" is the excerpt below from Schubert's *Arpeggione* Sonata for cello and piano (Example 42). Here, the multiple position changes on the A string can be avoided by its use.

Example 42: Franz Schubert's Sonata in A Minor for Arpeggione and Piano, D. 821, first movement, mm. 48-52.[135]



The "pianistic passing of the thumb" may also work in situations where double stops are involved. The famous double-stop passage from the first movement of Camille Saint-Saëns' Concerto for Cello and Orchestra No. 1 can serve as a further example for this potential solution. In this case the idea of the procedure is similar, although its execution is somewhat different: instead of the thumb moving below the index finger, the first finger now leaps over the stationary thumb (Example 43).

Example 43: Camille Saint-Saëns' Concerto for Cello and Orchestra No. 1 in A Minor, Op. 33, first movement, mm. 94-102.[136]



[135] Transcription based on Franz Schubert, *Arpeggione Sonate*, trans. Jan Mulder (Leipzig: Breitkopf & Härtel, ca. 1905). Fingerings and bowings edited by the author.

[136] Transcription based on Camille Saint-Saëns, *Concerto No. 1 for Violoncello and Orchestra* (Paris: A. Durand & Son, 1903). Fingerings and bowings edited by the author.

4.2 Keeping the Thumb Underneath the Fingerboard in High Positions

Another one of Tortelier's rebellious innovations is the idea of occasionally moving the thumb underneath the fingerboard in the upper registers, where there is enough clearance between the body of the cello and the bottom of the fingerboard (Figure 6).

Figure 6: Keeping the thumb underneath the fingerboard in high positions.

Although very unusual and highly innovative,[137] this technique has its own advantages. According to Tortelier, it helps maintain a steadier, more balanced left hand when playing in high registers through a firmer contact of the thumb. By keeping the thumb's relative position to the fingers consistent and by using more fingertip surface as a result of the fingers' perpendicular line above the strings, a more secure intonation and a larger tone can be achieved.[138] Tortelier regularly used this technique in his performances. In his *Self-Portrait*, he recalls his fellow cellist colleagues' astonishment when they first noticed such an "illegal" way of playing.[139]

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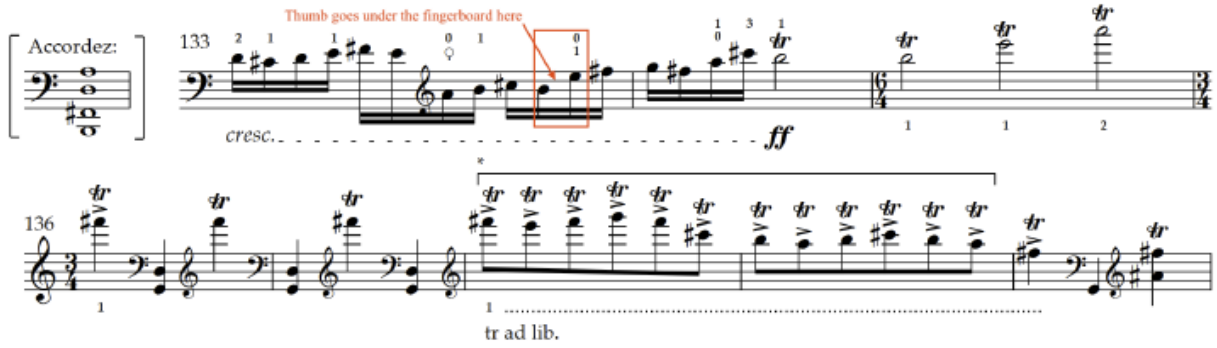
[137] Christopher Bunting briefly mentions a similar technique in his method *Essay on the Craft of Cello Playing*, 2 vols. (London: SJ Music, 1982), vol. 2, p. 99.

[138] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), p. 80.

[139] David Blum, *Paul Tortelier: A Self-Portrait* (London: Heinemann, 1984), p. 211.

In *How I Play, How I Teach,* Tortelier does not provide further explanation on how to master and execute this idea, nor does he supply it with any exercises. However, he does provide a photograph for reference, along with two examples from the standard cello repertoire where this technique can be adequately applied.[140] This unusual way of playing can prove useful in various passages located in the very high registers of the instrument. In these cases, moving the thumb underneath the fingerboard is beneficial for the weight distribution of the hand. The trills at the end of the fingerboard in the first movement of Kodály's Sonata Op. 8 for solo cello prove to be an example where the thumb can be kept below the fingerboard. This way, the velocity and the intonation of the trills can be improved, due to a better balance distribution of the hand (Example 44).

Example 44: Zoltán Kodály's Sonata Op. 8 for solo cello, first movement, mm. 133-140.[141]

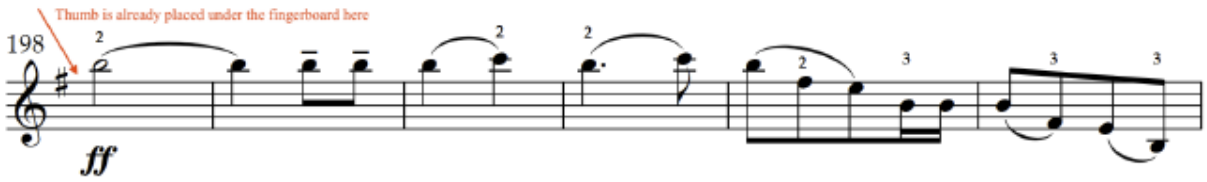


Further examples of this new thumb position application would be the following sustained high register melody from the recapitulation of Prokofiev's *Sinfonia Concertante*, Op. 125, and the end of the last movement of Dvořák's Cello Concerto, Op. 104 (Examples 45 and 46).

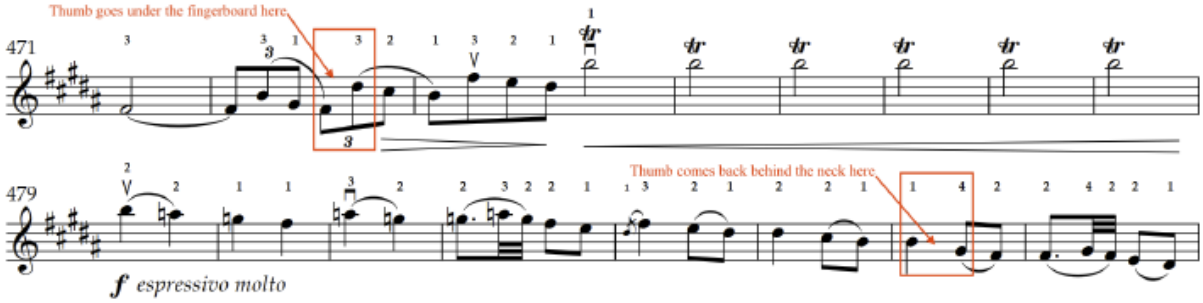
[140] Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), pp. 80-81.

[141] Transcription based on Zoltán Kodály, *Sonate Op. 8* (Vienna: Universal Edition, 1921). Fingerings and bowings edited by the author.

Example 45: Sergei Prokofiev's *Sinfonia Concertante,* Op. 125 for cello and orchestra, first movement, mm. 198-203.[142]



Example 46: Antonín Dvořák's Concerto for Cello and Orchestra in B Minor, Op. 104, third movement, mm. 471-486.[143]



Neither of the above-mentioned examples require the use of the thumb as a playing finger. Hence, the thumb should be gradually moved underneath the fingerboard at a convenient time.

4.3 New Pizzicato Techniques

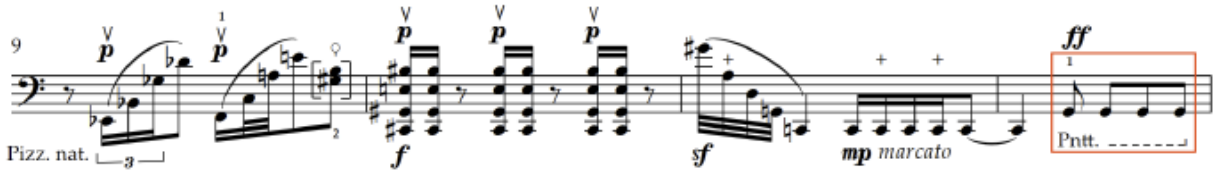
Tortelier's further unexplored innovations include various advanced pizzicato techniques of his own, such as "pichenetti" (flicking the string with the nail of the left hand) and "onglizzati" (striking the string with the nail of the middle finger, sustained by the curved thumb). These new effects should be considered as pure extended techniques, applicable almost exclusively in Tortelier's own compositions. Although not present in the basic standard repertoire, they nevertheless comprise an interesting new addition to the modern cello technique of the 20th

[142] Transcription based on Sergei Prokofiev, *Sinfonia Concertante*, ed. Mstislav Rostropovich (Moscow: Muzgiz, 1959). Fingerings and bowings edited by the author.

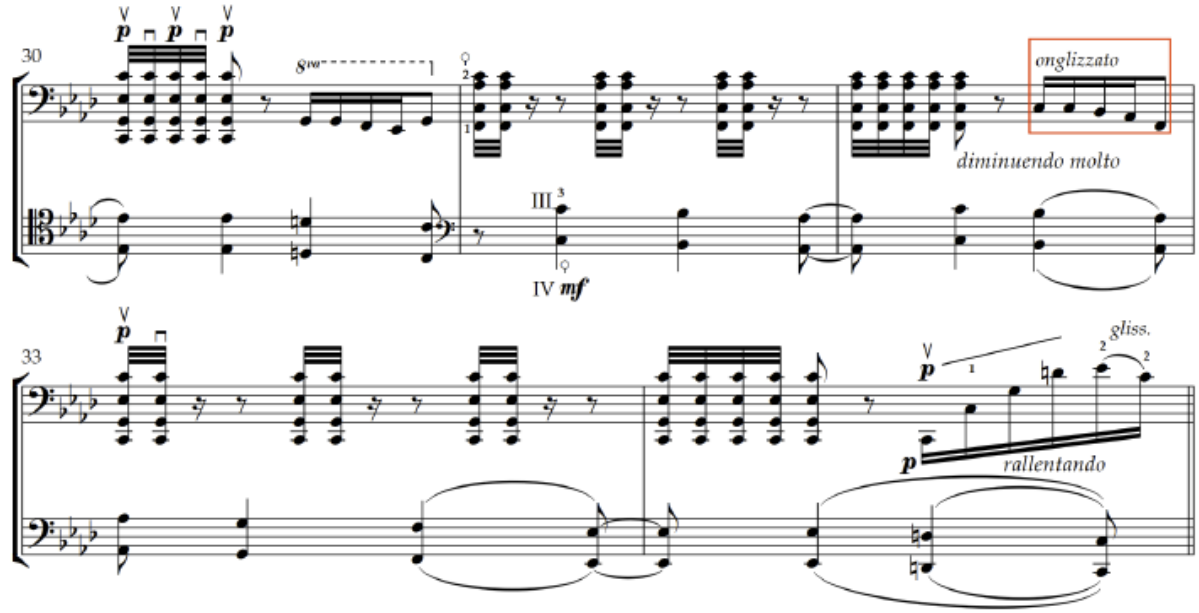
[143] Transcription based on Antonín Dvořák, *Cello Concerto* (Berlin: N. Simrock, 1896). Fingerings and bowings edited by the author.

century, waiting to be further explored and employed. His *Pishnetto* concert etude for cello and piano largely employs "pichenetti" (Example 47). *Miniature No. 7* in his cello method serves as a special preparatory exercise entirely dedicated to mastering these new plucking effects (Example 48).

Example 47: Paul Tortelier's *Pishnetto (Recital Etude No. 5)* for cello and piano, mm. 9-12.[144]



Example 48: *Miniature No. 7* in Paul Tortelier's *How I Play, How I Teach* method, mm. 30-34.[145]



[144] Transcription based on Paul Tortelier, *Pishnetto* (London: Chester Music, 1970).

[145] Transcription based on Paul Tortelier, *How I Play, How I Teach* (London: Chester Music, 1975), pp. 122-123.

CHAPTER 5

CONCLUSION

By observing the highly specific innovations characteristic to Paul Tortelier's technique and teaching, one can conclude that his approach to cello playing is at times anything but traditional. Playing with the flattened last joint of the finger, keeping the thumb on only one string, and rolling the bow stick while playing are all elements that, despite their groundbreaking nature, can serve as worthy supplements to the technical arsenal of every contemporary professional cellist. His inventive scale and double-stop fingerings are all valuable alternatives for an often biased and traditional concept. Under justified circumstances, these novelties can all contribute to the quality of performance by exploiting the advantages of the anatomy of the hand and by combating its weaknesses.

This research proves that even Tortelier's most unorthodox ideas can be applied not only to contemporary music as extended techniques, but also to standard cello pieces from any period. By pointing out examples from the traditional literature where his unique visionary beliefs can be utilized, this paper proves that the elements of the Tortelier method deserve more examination and practical application.

Although the information laid out in *How I Play, How I Teach* is generally comprehensive, its highly condensed innovative contents might prove overwhelming and intimidating to a less experienced cellist. This document provides a more detailed description of how to approach and execute some of these ideas, especially in instances when Tortelier's explanations might seem insufficient or unorganized due to his minimalistic, straightforward approach.

According to David Blum, Tortelier was given the nickname "Paul the Mad" by his students during his teaching years at the Paris Conservatory.[146] Judging by some of his unconventional technical ideas and his seemingly eccentric personality, one can notice why the origin of such a nickname could be legitimate. However, Tortelier's beliefs and unordinary approach are further proof that the art of cello playing still encompasses many new technical possibilities, all waiting to be discovered.

The non-traditional contents of Paul Tortelier's method might not be suitable for every cello player. Nevertheless, when supplemented by the other great methods of the 20th century, *How I Play, How I Teach* serves as an invaluable resource in opening new horizons for today's modern cello technique. It should be present in each aspiring cellist's library, as useful guidance to both performance and pedagogy.

[146] David Blum, *Paul Tortelier: A Self-Portrait* (London: Heinemann, 1984), p. 208.

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